SONY

DIGITAL TIME BASE CORRECTOR

BVT-810P



OPERATION AND MAINTENANCE MANUAL 1st Edition (Revised 11)
Serial No. 10001 and Higher

Note

This appliance Conforms with EEC Directive 87/308/EEC regarding interference suppression.

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SECTION 1 OPERATION

The BVT-810P is a digital time base corrector for use with a color-under system VTR equipped with a capstan servo system which can upgrade the playback signal to satisfy broadcasting standards.

1-1. FEATURES

A wide correction range of 29H

A window of 29H (p-p) permits a wide range of time base error to be corrected. Even if the error exceeds the correctable range, no horizontal movement nor sync fluctuation occurs.

Dynamic tracking* of wide range of playback speed

When a BVU-820P series U-matic videocassette recorder is connected by the multi-core cable, the playback of -1 to +3 times nomal playback speed is possible without any guard band noise.

Digital dropout compensator

An advanced digital dropout compensator replaces each luminance dropout with the signal of the previous line and each chrominance dropout with the signal of two lines before. This signal replacement is performed digitally so that no signal degradation occurs.

Video processor

The video level, chroma level, black level, burst/chroma phase, subcarrier phase and sync phase can be adjusted. The burst/chroma phase, system subcarrier phase and system sync phase can be adjusted without interfering each other.

Built-in sync generator

The BVT-810P can operate with an external sync signal or with a sync signal from the built-in sync generator. The subcarrier stability is ± 1 Hz at 20°C ± 5 °C.

Y/C delay control

The Y/C delay can be controlled up to ±150 nsec.

DG compensation

Differential gain (DG) up to $\pm 20\%$ can be compensated.

* Dynamic tracking is a trademark of Sony Corporation.

8 bits, Y:10.9 MHz/C:5.4 MHz sampling

The playback signal is converted to a digital signal by sampling with 8 bits Y:10.9 MHz/C:5.4 MHz, so no degradation of the picture of a duplicating tape occurs.

High speed synchronized playback

With a BVU-800 series VTR, a color picture up to 5 times normal playback speed in forward and reverse direction can be synchronized with the reference signal. With a monochrome picture, synchronized playback from -40 to +40 times normal playback speed is possible.

Selection of V-blanking

The H lines from the seventh to the twenty seconds can be set to on and off independently with the switches on the built-in circuit board. In this way the V-blanking width can be selected.

Chroma noise reduction

The built-in chroma noise reducer** improves the signal-to-noise ratio of the output chroma level by 2 to 6 dB.

Chroma enhancement

The built-in chroma enhancer** sharpens the edge of each chroma signal.

Remote control

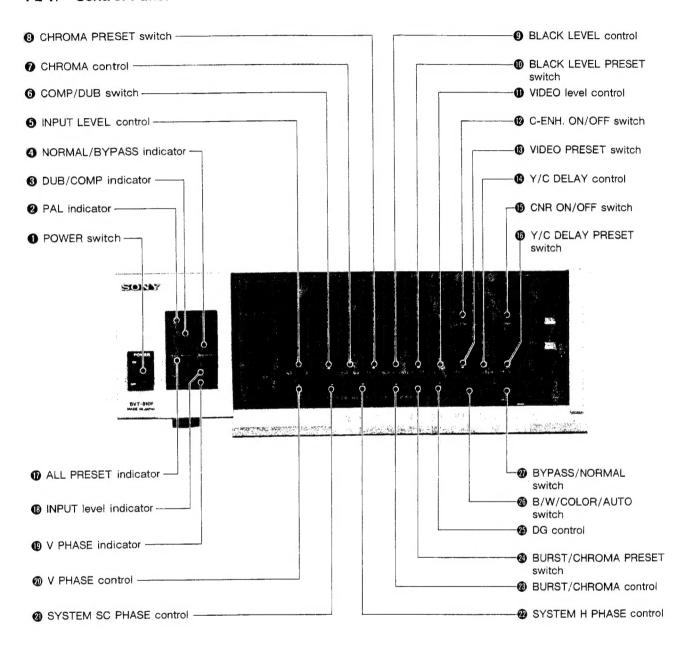
With the BK-2007 remote control unit (optional), the adjustments of the chroma level, video leve, black level, system sc phase, system sync phase, and ourst/chroma phase can be remotely controlled.

^{**}The chroma noise reducer and the chroma enhancer are manufactured under license from Faroudja Laboratoires Inc.

[&]quot; 🗏 🖺 " is the trademark of Faroudja Laboratoires Irc.

1-2. LOCATION AND FUNCTION OF PARTS AND CONTROLS

1-2-1. Control Panel



1 POWER switch

Press the ON side to turn the power on.

PAL indicator

The PAL indicator will light to indicate that the BVT-810P is a PAL model.

❸ DUB/COMP indicator

When the COMP/DUB switch is set to DUB or a BVU-800 series VTR is connected to the FROM VTR connector with a multi-cable, the DUB indicator will light. In other cases, the COMP indicator will light.

O NORMAL/BYPASS indicator

NORMAL or BYPASS will light depending on the setting of the BYPASS/NORMAL switch.

(A) INPUT LEVEL control

The video input level can be adjusted within a range of ± 3 dB. The correct level is indicated in green on the INPUT level indicator.

6 COMP/DUB switch

When a BVU-200P is connected to the DUB IN (U-matic H) connector with a dubbing cable, set this switch to DUB and the DUB indicator will light. When the other VTR is connected to the OFF TAPE VIDEO connector, set this switch to COMP and the COMP indicator will light.

- When a BVU-800 series VTR is connected to the FROM VTR connector with a multicable, the BVT-810P is automatically set to the dub mode independent of the setting of this switch and the DUB indicator will light.
- In the DUB mode, the signal skips the Y/C separation filter so that the bandwidth of the luminance signal will be wide.

O CHROMA control

The chroma level of the output signal can be adjusted within a range of ± 3 dB when the CHROMA PRESET switch is set to the upper (manual) position. The adjustable range of the 100% color bars is 120%.

CHROMA PRESET switch

Usually set to PRESET. In this position, the setting of the CHROMA control doesn't affect the output signal. With this switch set to the upper position, the chroma level can be adjusted with the CHROMA control.

BLACK LEVEL control

The black level of the output signal can be adjusted from 0 to 0.11V when the BLACK LEVEL PRESET switch is set to the upper (manual) position.

M BLACK LEVEL PRESET switch

Usually set to PRESET. In this position, the setting of the BLACK LEVEL control doesn't affect the output signal. With this switch the upper (manual) position, the black level can be adjusted with the BLACK LEVEL control.

VIDEO level control

When the VIDEO PRESET switch is set to the upper (manual) position, the video (luminance and chominance) output level can be adjusted within the range of ±3dB. This control does not adjust the sync signal level.

C-ENH. (chroma enhancement) ON/OFF switch

With this switch set to ON, the edge of the chroma signal is enhanced when the input playback signal from the VTR is received in the DUB mode.

 Chroma enhancement will not be activated for the E-to-E signal from the VTR, nor when the input playback signal is received in the COMP mode.

(B) VIDEO PRESET switch

Usually set to PRESET. In this position, the setting of the VIDEO level control doesn't affect the output signal. With this switch set to the upper (manual) position, the video level can be adjusted with the VIDEO level control.

1 Y/C DELAY control

When the Y/C DELAY PRESET switch is set to the upper (manual) position, the Y/C delay can be adjusted to 0 if the Y/C delay of the input signal is within the range of \pm 150 nsec.

(chroma noise reduction) ON/OFF switch

With this switch set to ON, the signal-to-noiseratio of the output chroma signal is improved by 2 to 6 dB for the playback signal from the VTR.

- Chroma noise reduction will not be activated for the E-to-E signal from the VTR.
- If a program is duplicated repeatedly with the CNR switch set to ON, the color of the picture might run. If this happens, set the CNR switch to OFF when duplicating the bulk of the work, setting it to ON only for the last duplication.

1 Y/C DELAY PRESET switch

Usually set to PRESET. In this position, the adjusted value will be 0. With this switch the upper position, the Y/C delay can be adjusted with the Y/C DELAY control.

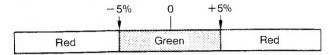
ALL PRESET indicator

When the CHROMA PRESET, BLACK LEVEL PRESET, Y/C DELAY PRESET, VIDEO PRESET and BURST/CHROMA PRESET switches are set to PRESET, this indicator will light.



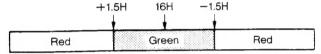
(B) INPUT level indicator

The proper input level is indicated in green on this indicator by observing the level of the sync signal.



19 V PHASE indicator

The BVT-810P delays the output signal by 16 H to the input signal so that the playback signal of the VTR is advanced by 16 H to the reference signal. If the delay of the playback signal is in the range of 16 H \pm 1.5 H, the green part of this indicator will light. Adjust the V PHASE control so that the green part will light.



1 V PHASE control

The playback signal can be adjusted so that it advances by 16 H to the reference signal. The proper level is indicated in green on the V PHASE indicator.

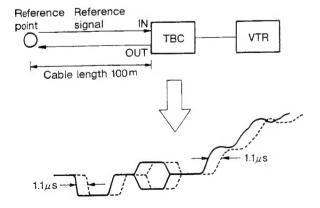
SYSTEM SC (subcarrier) PHASE control

The subcarrier phase of the output signal can be adjusted to that of the reference signal. The adjustable range is 360°. This control does not affect the video and sync phase.

@ SYSTEM H PHASE control

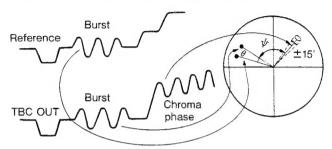
The delay between the playback signal and the reference signal caused by the cable length can be compensated for by adjusting the system H phase with this control. The adjustable range is from -1μ sec. to $+3\mu$ sec.

In the following illustration, the signal delay between the reference point and the input on the TBC is 550 nsec. The TBC OUT signal will be delayed an additional 550 nsec to return to the reference point so that the phase must be advanced by 1.1μ sec.



BURST/CHROMA control

The burst/chroma phase (ψ) of the output signal can be adjusted within a range of $\pm 15^\circ$ when the BURST/ CHROMA PRESET switch is set to the upper (manual) position. This control does not adjust the θ .



BURST/CHROMA PRESET switch

Usually set to PRESET. In this position, the setting of the BURST/CHROMA control doesn't affect the output signal. With this switch set to the upper (manual) position, the burst/chroma phase can be adjusted with the BURST/CHROMA control.

DG (differential gain) control

The DG of the U-matic VTR can be adjusted within a range of $\pm 20\%$.

B/W/COLOR/AUTO switch

Set this switch to the position which corresponds to the off tape video input.

B/W: The input signal is treated as a monochrome signal. COLOR: The input signal is treated as a color signal.

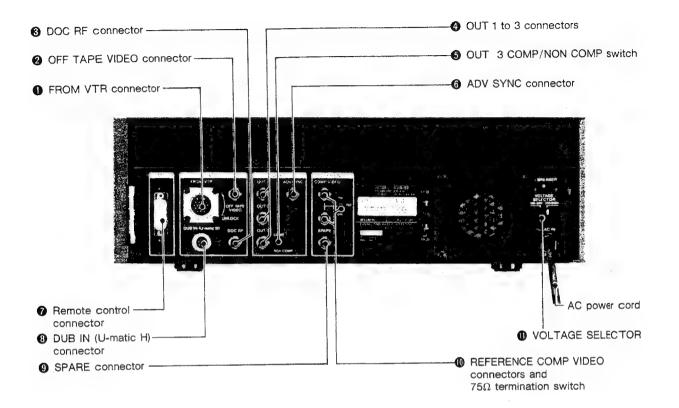
AUTO: The input signal is identified as a monochrome signal or a color signal by its burst signal level. When the burst signal level is below the reference level (300mV) by 12 ±3 dB, the signal is identified as a monochrome signal.

BYPASS/NORMAL switch

BYPASS: The input signal bypasses the circuit and will be fed out

NORMAL: Normally set to this position. The time base error of the input signal is corrected before the signal is fed out.

1-2-2. Connector Panel



● FROM VTR connector (18 pin) (for the BVU-800 series VTR)

Connect to the TBC connector on the BVU-800 series VTR with the supplied multi-core cable. This connection cuts the input to the OFF TAPE VIDEO connector 2.

② OFF TAPE VIDEO connector (BNC type)

Connect to the video output connector on the VTR.

3 DOC (dropout compensator) RF connector (BNC type) Connect to the RF (OFF TAPE) connector on the VTR.

4 OUT 1 to 3 connectors (BNC type)

These connectors output the video signal. Connect to the video input connector on the equipment to be used. The output of the OUT 3 connector can be set to composite video or non-composite video by the COMP/NON COMP switch §.

6 OUT 3 COMP/NON COMP switch

The output signal of the OUT 3 connector can be changed with this switch.

COMP: A composite video signal (VBS, the same as the OUT 1 and 2) is output.

NON COMP: A non-composite video signal (VB) is output.

6 ADV SYNC (advanced sync) connector (BNC type)

The sync signal which has been advanced by 16 H against the reference signal is output here. Connect to the sync input on the VTR.

Remote control connector (15 pin)

Connect the BK-2007 remote control unit to control the BVT-810P remotely.

3 DUB IN (U-matic H) connector (7 pin)

Connect to the DUB OUT connector on the BVU-200P and the wide bandwidth can be obtained. When this connector is used, set the COMP/DUB switch on the front panel to DUB.

SPARE connector (BNC type)

No connections here.

REFERENCE COMP VIDEO input connectors (BNC type) and 75-ohm termination switch

Connect a reference signal (BS or VBS) here. These two connectors are in "loop-through" configuration so that the input signal to one connector is fed directly to the other. When a loop-through output is used, be sure to set the 75-ohm termination switch to OFF. If such an output is not used, set the switch to ON.

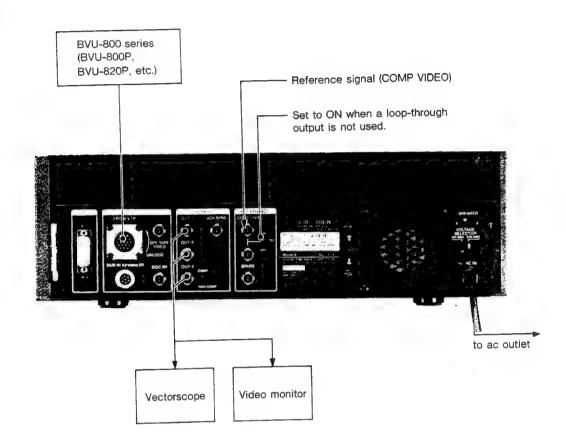
1 VOLTAGE SELECTOR

Set to your local power voltage. If the selector must be reset, remove the cover, press the voltage selector switch, and replace the cover.

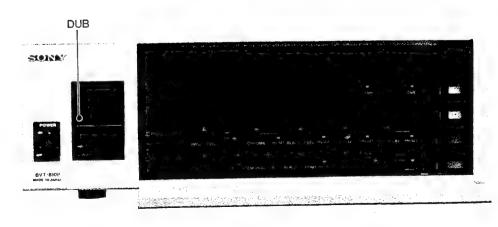
1-3. CONNECTIONS AND OPERATION

1-3-1. Connection with the BVU-800 Series

Rear



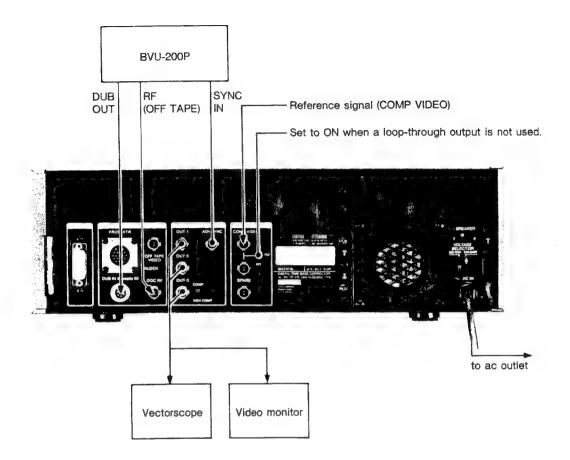
Front



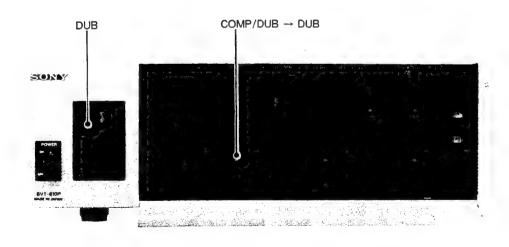


1-3-2. Connection with the BVU-200P

Rear

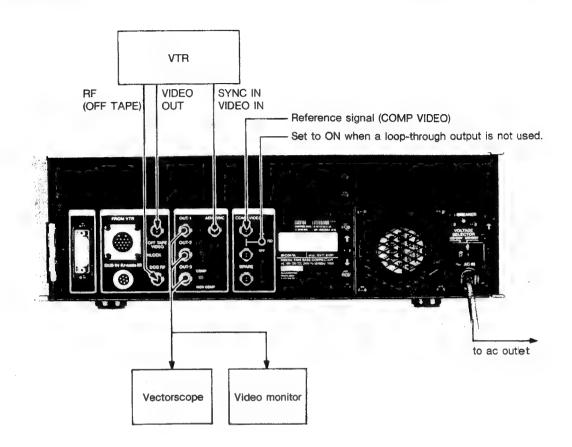


Front

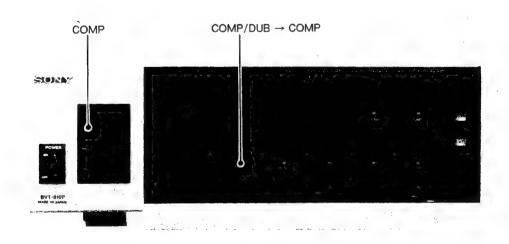


1-3-3. Connection with a VTR Other Than BVU-series VTR Which is Equipped with a Capstan Servo System

Rear



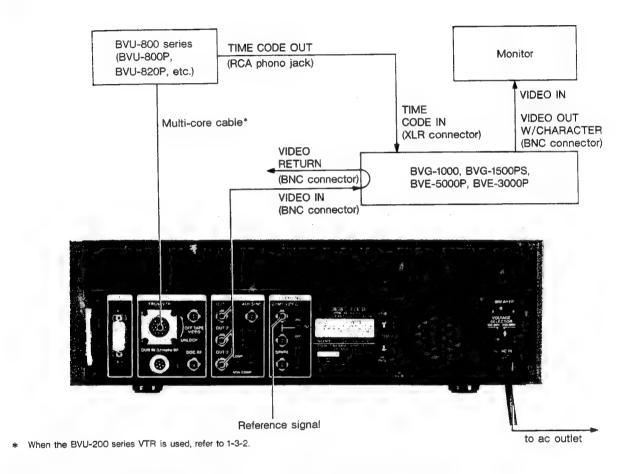
Front



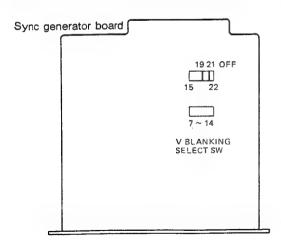
1-3-4. Connection to Use the VITC (Verical Interval Time Code)

Connect one of the BVU-800 series and one of the BVG-1500PS, BVG-1000, BVE-5000P or BVE-3000P.

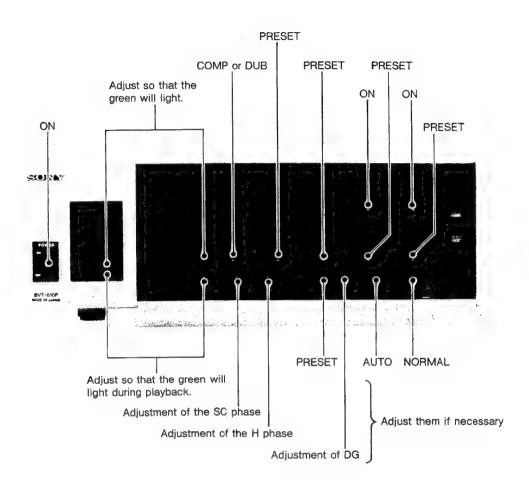
Rear



When the VITC is used, be sure to set the V blanking select switches for 19 and 21 lines to OFF.



1-3-5. Standard Setting





1-4. SPECIFICATIONS

General

Power requirements

100-120V (90-132V)/220-240V

(198-264V) ac selectable

50/60Hz (48-62Hz)

Power consumption

mption 120W

Operating temperature Storage temperature

e 0°C to 40°C (32°F to 104°F) -10°C to +60°C (14°F to 140°F)

Storage temperatu
Humidity

10-90% (non condensing) 424×132×515mm (w/h/d) (16³/₄×5¹/₄×20³/₈ inches)

Weight

Dimensions

15kg (33lb 1oz)

Video

Bandwidth

COMP IN

Y: 2.5MHz ±0.4 dB, 3.25MHz -3 dB C: ±0.7MHz -3 dB

DUB IN

Y: 3.5MHz ±0.4 dB 4.3MHz -3 dB C: ±0.85MHz -3 dB

Signal-to-noise ratio

DG

55 dB 2%

2°

DP K factor (2T pulse)

COMP IN: 4%

DUB IN: 2%

Chrominance/luminance delay

10 nsec

Correction range

29 H(p-p)

Residual error

Color: ±2.5 nsec

Monochrome: ±15 nsec

Input signal

Off tape video

Composite 1.0V(p-p) ±3dB

(adjustable), 75 ohms

DUB IN

Luminance: 0.5V(p-p) ±3dB

(adjustable), 75 ohms Chrominance: 0.5V(p-p),

75 ohms

DOC RF signal

 $0.5 \text{ V } \pm 6 \text{ dB}, 75 \text{ ohms}$

Reference comp video

1.0 V(p-p) ±3 dB,

75 ohms ON/OFF

Output signal

Advanced sync

2.2 V ±0.3 V, 75 ohms

Video output

1: 1.0 V(p-p)

2: 1.0 V(p-p)

3: 1.0 V(p-p)/0.7 V(p-p)

(non-composite video)

Output process

Video level Chroma level ±3 dB ±3 dB

Black level

0-0.11 V

Burst/chroma phase DG compensator

±15° ±20%

System sync phase

-1 to $+3 \mu sec$

System sc phase

more than ±180°

Y/C delay

±150 nsec

Chroma noise reduction 2-6 dB

Supplied accessories

Extension board EB-9A···1

Rack mount kit…1

(Handle---2, Screw B4×12---4, Screw K4×10---4)

Multi-core cable…1

Operation and maintenance manual...1

Design and specifications subject to change without no-

tice.

TITLE 1 BETRIEB

Bei Modell BVT-810P handelt es sich um einen digitalen Time-Base-Corrector, der an einen Videorecorder mit Farbträger-Heruntersetzung und Capstan-Servosystem angeschlossen werden kann und das Wiedergabesignal für die Anforderungen im Rundfunkbereich aufarbeitet.

1-1. BESONDERE MERKMALE

Breiter Korrekturbereich von 29 H

Ein Fenster von 29H(ss) erlaubt eine Zeitbasiskorrektur über einen weiten Bereich. Selbst wenn der Fehler diesen Korrekturbereich überschreitet, tritt weder eine horizontale Verschiebung noch eine Synchronisationsverschiebung auf.

Dynamic Tracking* (Dynamische Spurlage) für weiten Variationsbereich der Wiedergabegeschwindigkeit

Wird ein U-matic Videorecorder der BVU-820P-Serie über ein mehradriges Kabel angeschlossen, so ist ein Variieren der Wiedergabegeschwindigkeit von —1 bis +3facher Normalgeschwindigkeit ohne Störungen vom Spurrasen möglich.

Digitaler Dropout-Kompensator

Ein hochwertiger digitaler Dropout-Kompensator ersetzt Dropout-Stellen im Luminanzsignal durch das Signal der vorhergehenden Zeile und Dropout-Stellen im Chromasignal durch das Signal der zweitletzten Zeile. Da das Ersetzen der Zeilen digital geschieht, tritt keine Qualitätsminderung auf.

Videoprozessor

Videopegel, Chromapegel, Schwarzpegel, Burst/Chroma-Phase, Hilfsträger-Phase und Sync-Phase können eingestellt werden. Burst/Chroma-Phase, System-Hilfsträger-Phase und System-Sync-Phase können ohne gegenseitige Beeinflussung eingestellt werden.

Eingebauter Synchronsignalgenerator

Der BVT-810P kann mit einem externen Synchronsignal oder mit dem vom eingebauten Synchronsignalgenerator gelieferten Signal arbeiten. Die Hilfsträgerfrequenzstabilität beträgt ± 1 Hz bei 20°C ± 5 °C.

Y/C-Verzögerungsregler

Die Y/C-Verzögerung kann in einem Bereich von ±150 nsec eingestellt werden.

* Dynamic Tracking ist ein Warenzeichen der Sony Corporation.

DG-Kompensation

Ein Differenzialgewinn (DG) bis zu ± 20% kann kompensiert werden.

8-Bit-Abtastung, Y:10,9MHz/C:5,4 MHz

Das Wiedergabesignal wird durch eine 8-Bit-Abtastung (Y:10,9 MHz/C:5,4 MHz) in ein Digitalsignal umgewandelt, so daß beim Kopieren eines Bandes keinerlei Qualitätsminderung auftritt.

Synchronisierte Wiedergabe mit hoher Geschwindigkeit

Der Videorecorder der BVU-800-Serie liefert bis zur 5fachen Normalgeschwindigkeit in Vorwärts und Rückwärtsrichtung ein mit dem Referenzsignal synchronisiertes Farb-Wiedergabebild. Bei einem Schwarzweißbild ist eine synchronisierte Wiedergabe von -40 bis +40facher Normalgeschwindigkeit möglich.

Wahl der V-Austastung

Die H-Zeilen von der 7. bis zu 20. Sekunde können zur Einstellung der V-Austastbreite unabhängig mit den Schaltern der eingebauten Leiterplatte ein- und ausgeschaltet werden.

Chroma-Störsignalverminderung

Die eingebaute Störsignalverminderung** verbessert den Störsignalabstand des Chroma-Ausgangssignals um 2 bis 6 dR

Chroma-Enhancer

Der eingebaute Chroma-Enhancer** verstärkt die Kanten des Chromasignals.

Fernbedienung

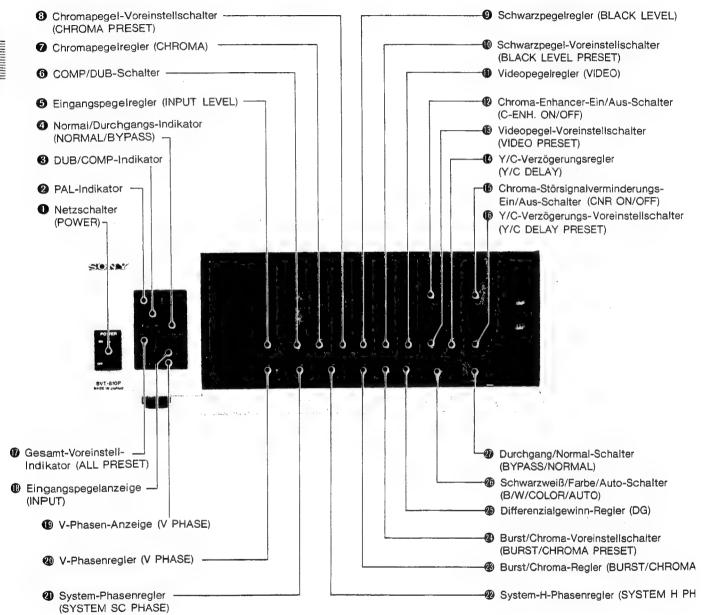
Mit den TBC-Fernbedien-Feld BK-2007 (Sonderzubehör) können die Einstellungen von Chromapegel, Vicleopegel, und Schwarzpegel, System-HT-Phase, System-Sync-Phase und Burst/Chroma-Phase fernbedien: vorgenommen werden.

^{**}Die Chroma-Störsignalverminderung und der Chroma-Eiham Cer Werden unter Lizenz der Faroudja Laboratories Inc. hergestellt

[&]quot; 🖳 " ist ein Warenzeichen der Faroudja Laboratoies 📭 nc.

1-2. LAGE UND FUNKTION DER BEDIENUNGSELEMENTE

1-2-1. Bedienungspult





Netzschalter (POWER)

Zum Einschalten auf die "ON"-Seite des Schalters drükken

PAL-Indikator

Der PAL-Indikator zeigt an, daß es sich beim BVT-810P um ein PAL-Modell handelt.

DUB/COMP-Indikator

Wenn der COMP-DUB-Schalter auf DUB gestellt ist oder ein Videorecorder der BVU-800-Serie an den FROM VTR-Anschluß über ein mehradriges Kabel angeschlossen ist, so leuchtet der DUB-Indikator. In allen anderen Fällen leuchtet der COMP-Indikator.

Normal/Durchgangs-Indikator (NORMAL/BYPASS)

Entsprechend der Stellung des BYPASS/NORMAL-Schalters leuchtet der NORMAL- oder der BYPASS-Indikator.

6 Eingangspegelregier (INPUT LEVEL)

Der Videoeingangspegel kann in einem Bereich von ± 3 dB eingestellt werden. Bei korrekter Pegeleinstellung leuchtet der grüne Indikator der INPUT-Pegelanzeige.

6 COMP/DUB-Schalter

Wird ein BVU-200P an den DUB IN (U-matic H)-Anschluß mit einem Überspielkabel angeschlossen, so ist dieser Schalter auf DUB zu stellen. Der DUB-Indikator leuchtet dann auf. Wird ein anderer Videorecorder an den OFF TAPE VIDEO-Anschluß angeschlossen, so ist dieser Schalter auf COMP zu stellen. Der COMP-Indikator leuchtet dann.

- Wird ein Videorecorder der BVU-800-Serie an den FROM VTR-Anschluß über ein mehradriges Kabel angeschlossen, so schaltet der BVT-810P automatisch auf die Überspielfunktion unabhängig von der Stellung dieses Schalters und unabhängig davon, ob der DUB-Indikator leuchtet.
- Bei Überspielbetrieb wird das Y/C-Trennungsfilter übergangen, so daß das Luminanzsignal eine größere Bandbreite aufweist.

Chromapegeiregler (CHROMA)

Steht der CHROMA PRESET-Schalter in der oberen Stellung (manuell), so kann der Chromapegel des Ausgangssignals in einem Bereich von ±3 dB eingestellt werden. Bei einem 100% Standard-Farbbalkensignal erhält man dann am VIDEO OUT-Anschluß einen Chromapegel von 120%.

Ohromapegel-Voreinstellschalter (CHROMA PRESET)

Normalerweise auf PRESET stellen. In dieser Stellung hat der CHROMA-Regler keinen Einfluß auf das Ausgangssignal. Steht der Schalter dagegen in der oberen Stellung, so kann der Chromapegel am CHROMA-Regler eingestellt werden.

9 Schwarzpegelregler (BLACK LEVEL)

Steht der BLACK LEVEL PRESET-Schalter in der oberen Stellung (manuell), so kann der Schwarzpegel des Ausgangssignals von 0 bis 0,11 V eingestellt werden.

Schwarzpegel-Voreinstellschalter (BLACK LEVEL PRESET)

Normalerweise auf PRESET stellen. In dieser Stellung hat der BLACK LEVEL-Regler keinen Einfluß auf das Ausgangssignal. Wird der Schalter dagegen nach oben (manuell) gestellt, so kann der Schwarzpegel am BLACK LEVEL-Regler eingestellt werden.

Wideopegelregier (VIDEO)

Sheht der VIDEO PRESET-Schalter oben (manuell), so kann das Video-Ausgangssignal (Luminanz und Chroma) in einem Bereich von ±3 dB eingestellt werden. Der Synchronsignalpegel wird dagegen nicht durch diesen Regler beeinflußt.

Chroma-Enhancer-Ein/Aus-Schalter(C-ENH. ON/OFF)

In der Stellung ON werden die Kanten des Chromasignals verstärkt, wenn das Eingangs-Wiedergabesignal von Videorecorder im DUB-Betrieb empfangen wird.

 Der Chroma-Enhancer arbeitet nicht bei Empfang des E-zu-E-Signals vom Videorecorder und auch nicht bei Zuleitung des Wiedergabesignals in der COMP-Betriebsart.

❸ Videopegel-Voreinstellschalter (VIDEO PRESET)

Normalerweise auf PRESET stellen. Der VDEO-Pegelregler hat dann keinen Einfluß auf das Ausgangssignal. Wird der Schalter nach oben gestellt (manuel), so kann der Videopegel am VIDEO-Pegelregler eingesellt werden.

Y/C-Verzögerungsregler (Y/C DELAY)

Steht der Y/C DELAY PRESET-Schalter in der oberen Stellung (manuell), so kann die Y/C-Verzögerung mit diesem Regler zu null gemacht werden, wenn die Y/C-Verzögerung des Eingangssignals einen Bereich von ±150 nsec nicht überschreitet.

Chroma-Störsignalverminderungs-Ein/Aus-Schalter (CNR ON/OFF)

In der Stellung ON wird der Störsignalabstand des Chroma-Ausgangssignals um 2 bis 6 dB verbessert.

- Die Chroma-Störsignalverminderung arbeitet nicht bei Zuleitung des E-zu-E-Signals vom Videorecorder.
- Bei wiederholtem Kopieren mit eingeschalteter Störsignalverminderung kommt es zu Farbverfälschungen. Stellen Sie deshalb den CNR-Schalter zur Erstellung des Masterbandes auf OFF und bei weiterem Kopieren dann auf ON.

Y/C-Verzögerungs-Voreinstellschalter (Y/C DELAY PRESET)

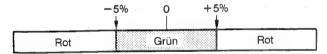
Normalerweise auf PRESET stellen. Der Verzögerungswert ist dann 0. Wird der Schalter nach oben gestellt, so kann die Y/C-Verzögerung am Y/C DELAY-Regler eingestellt werden.

Gesamt-Voreinstell-Indikator (ALL PRESET)

Dieser Indikator leuchtet, wenn der CHROMA PRESET-, BLACK LEVEL PRESET-, Y/C DELAY PRESET, VIDEO PRESET- und BURST/CHROMA PRESET-Schalter auf PRESET gestellt sind.

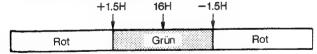
B Eingangspegelanzeige (INPUT)

Hier wird der Synchronsignalpegel angezeigt. Bei richtiger Einstellung des Eingangspegels leuchtet der grüne Indikator.



V-Phasen-Anzeige (V PHASE)

Der BVT-810P verzögert das Ausgangssignal um 16H gegenüber dem Eingangssignal, so daß das Videorecorder-Wiedergabesignal um 16 H gegenüber dem Referenzsignal voreilt. Liegt die Verzögerung des Wiedergabesignals in einem Bereich von 16 H±1,5 H, so leuchtet der grüne Indikator der Anzeige. Stellen Sie den V PHASE-Regler so ein, daß dieser grüne Indikator leuchtet.



V-Phasenregler (V PHASE)

Hier kann das Wiedergabesignal so eingestellt werden, daß es um 16 H gegenüber dem Referenzsignal voreilt. Bei richtiger Einstellung leuchtet der grüne Indikator der V PHASE-Anzeige.

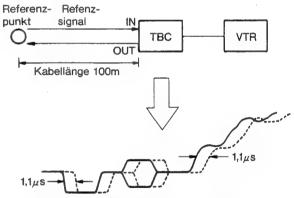
System-HT-Phasenregler (SYSTEM SC PHASE)

Die Hilfsträgerphase des Ausgangssignals kann hier dem Referenzsignal angepaßt werden. Der Einstellbereich beträgt 360°. Dieser Regler hat keinen Einfluß auf die Video- und Sync-Phase.

System-H-Phasenregler (SYSTEM H PHASE)

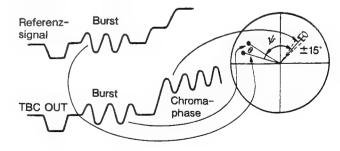
Die durch das Kabel verursachte Verzögerung zwischen Wiedergabe- und Referenzsignal kann kompensiert werden, indem an diesem Regler die System-H-Phase eingestellt wird. Der Einstellbereich beträgt -1μ sec bis $+3\mu$ sec.

In der folgenden Abbildung beträgt die Signalverzögerung zwischen Referenzpunkt und Eingang des TBC 550 nsec. Bei der Rückkehr zum Referenzpunkt wird das TBC-Ausgangssignal noch einmal um 550 nsec verzögert, so daß eine Phasenvoreilung von 1,1 μ sec eingestellt werden muß.



Burst/Chroma-Regler (BURST/CHROMA)

Hier kann die Burst/Chroma-Phase (\varPsi) des Ausgangssignals in einem Bereich von $\pm 15^\circ$ eingestellt werden, wenn der BURST/CHROMA PRESET-Schalter in der oberen Position (manuell) steht. Dieser Regler dient nicht zur Einstellung von θ .



Burst/Chroma-Voreinstellschalter (BURST/CHROMA PRESET)

Normalerweise auf PRESET stellen. Der BURST/CHRO-MA-Regler hat dann keinen Einfluß auf das Ausgangssignal. Wird der Schalter dagegen in die oberen Position (manuell) gestellt, so kann die Burst/Chroma-Phase am BURST/CHROMA-Regler eingestellt werden.

Differenzialgewinn-Regler (DG)

Hier kann der Differenzialgewinn eines U-matic Videorecorders in einem Bereich von $\pm 20\%$ eingestellt werden.

@ Schwarzweiß/Farbe/Auto-Schalter (B/W/COLOR/AUTO)

Dieser Schalter ist entsprechend des Bandwiedergabe-Eingangssignals einzustellen.

B/W: Das Eingangssignal wird als Schwarzweißsignal behandelt.

COLOR: Das Eingangssignal wird als Farbsignal behandelt.

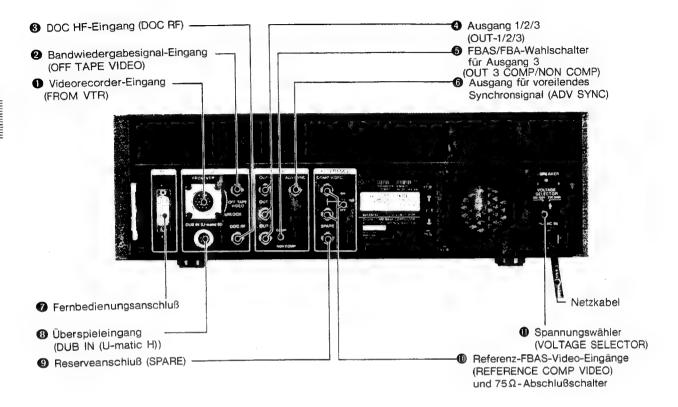
AUTO: Die Umschaltung zwischen Schwarzweiß und Farbe erfolgt automatisch durch Erkennung des Burstsignals. Liegt der Burstsignalpegel um 12 ± 3 dB unter dem Referenzpegel (300 mV), so wird das Signal als Schwarzweißsignal behandelt.

② Durchgang/Normal-Schalter (BYPASS/NORMAL)

BYPASS: Das Eingangssignal umgeht die Schaltkreise und wird direkt dem Ausgang zugeleitet.

NORMAL: Verwenden Sie normalerweise diese Stellung. Der Zeitbasisfehler des Eingangssignals wird korrigiert, und das korrigierte Signal kann am Ausgang abgegriffen werden.

1-2-2. Anschlußtafel



Videorecorder-Eingang (FROM VTR) (18pol, für Videorecorder der BVU-800-Serie)

Verbinden Sie diesen Eingang über das mitgelieferte mehradrige Kabel mit dem TBC-Anschluß des Videorecorders der BVU-800-Serie. Der OFF TAPE VIDEO-Eingang wird dann desaktiviert.

Bandwiedergabesignal-Eingang (OFF TAPE VIDEO) (BNC-Buches)

Zum Anschluß an den Videoausgang des Videorecorders.

3 DOC HF-Eingang (DOC RF) (BNC-Buchse)

Zum Anschluß an den RF (OFF TAPE)-Anschluß des Videorecorders.

4 Ausgang 1/2/3 (OUT-1/2/3) (BNC-Buchsen)

Hier liegt das Videoausgangssignal an. Verbinden Sie diese Ausgänge mit den Eingängen der zu verwendenden Geräte. Das am OUT-3-Anschluß herausgeführte Videosignal kann am COMP/NON COMP-Umschalter 3 zwischen FBAS und FBA umgeschaltet werden.

FBAS/FBA-Wahlschalter für Ausgang 3 (OUT 3 COMP/ NON COMP)

Zur Umschaltung des am OUT-3-Anschluß herausgeführten Signals.

COMP: Es liegt ein FBAS-Signal an (genau wie am OUT-1- und OUT-2-Anschluß).

NON COMP: Es liegt ein FBA-Signal an.

6 Ausgang für voreilendes Synchronsignal (ADV SYNC) (BNC-Buches)

Hier liegt ein um 16 H gegenüber dem Referenzsignal voreilendes Synchronsignal an. Verbinden Sie diese Buchse mit dem Synchronsignaleingang eines Videorecorders.

⑦ Fernbedienungsanschluß (15pol)

Hier kann zur Fernbedienug des BVT-810P das TBC-Fernbedien-Feld BK-2007 angeschlossen werden.



3 Überspieleingang (DUB IN (U-matic H)) (7pol)

Wird dieser Anschluß an den DUB OUT-Anschluß eines BVU-200P Videorecorders angeschlossen, so erhält man eine größere Bandbreite. Stellen Sie bei Verwendung dieses Anschlusses den COMP/DUB-Schalter am vorderen Bedienungspult auf DUB.

Reserveanschluß (SPARE) (BNC-Buchse)

Kein Anschluß erforderlich.

Referenz-FBAS-Video-Eingänge (REFERENCE COMP VIDEO) und 75 Ω - Abschlußschalter

Leiten Sie hier ein Referenzsignal (FBAS oder Burst-Synchron) zu. Die beiden Eingänge sind durchgeschleift, so daß das einem der beiden Eingänge zugeleitete Signal direkt am anderen Eingang abgenommen werden kann. Wenn ein durchgeschleifter Ausgang verwendet wird, muß der 75Ω -Abschlußschalter auf OFF gestellt werden. Wird kein durchgeschleifter Ausgang verwendet, so ist der Schalter auf ON zu stellen.

Spannungswähler (VOLTAGE SELECTOR)

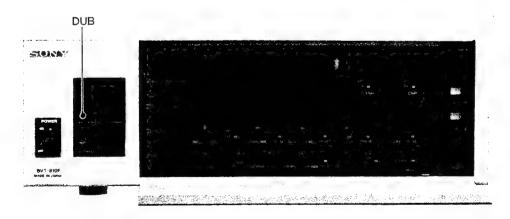
Zur Einstellung der Netzspannung. Ist eine Umstellung erforderlich, so nehmen Sie die Kappe ab, stellen Sie den Schalter um, indem Sie ihn drücken, und bringen Sie die Kappe wieder an.

1-3. ANSCHLUSS UND BETRIEB

1-3-1. Anschluß eines Videorecorders der BVU-800-Serie.

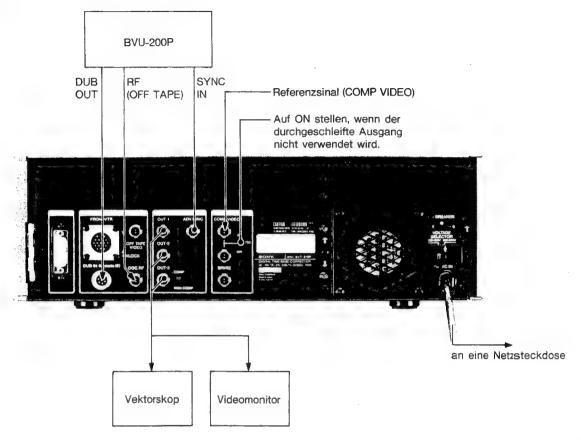
Rückseite BYU-800-Serie (BYU-820P usw.) Referenzsignal (COMP VIDEO) Auf ON stellen, wenn der durchgeschleifte Ausgang nicht verwendet wird. an eine Netzsteckdose

Vorderseite

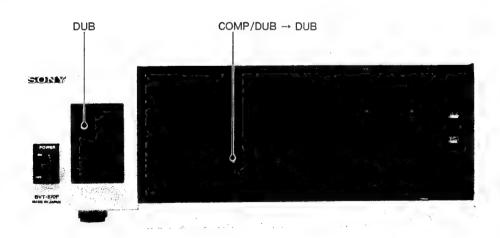


1-3-2. Anschluß eines BVU-200P

Rückseite

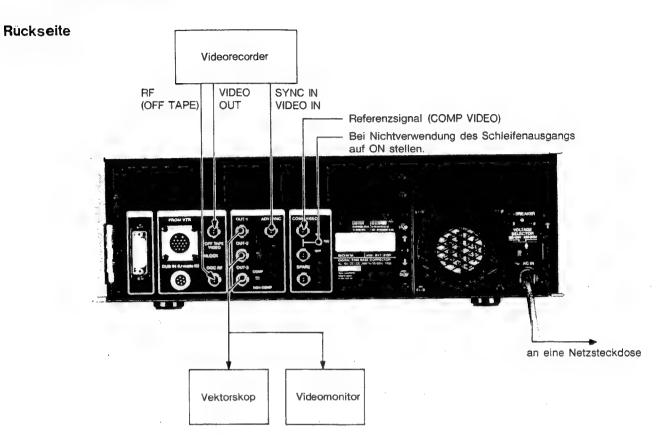


Vorderseite



1-3-3. Anschluß eines Videorecorders, der ein Capstan-Servosystem besitzt, aber nicht zur **BVU-Serie gehört**

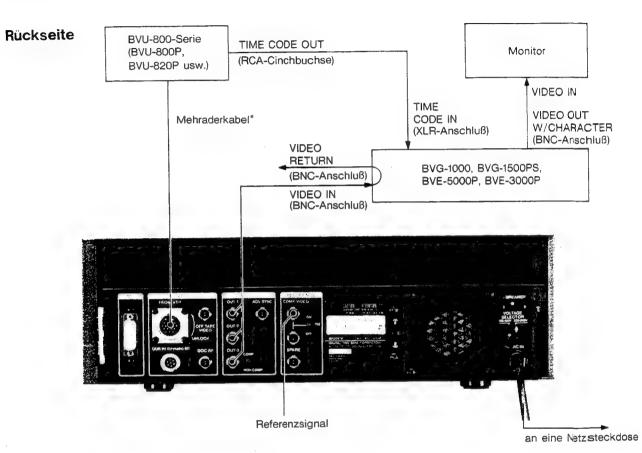




Vorderseite COMP/DUB → COMP COMP STORAY

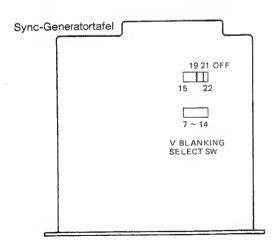
1-3-4. Anschluß für Benutzung des VITC (Vertical Interval Time Code)

Schließen Sie einen Videorecorder der BVU-800-Serie und einen BVG-1500PS, BVG-1000, BVE-5000P oder BVE-3000P an.

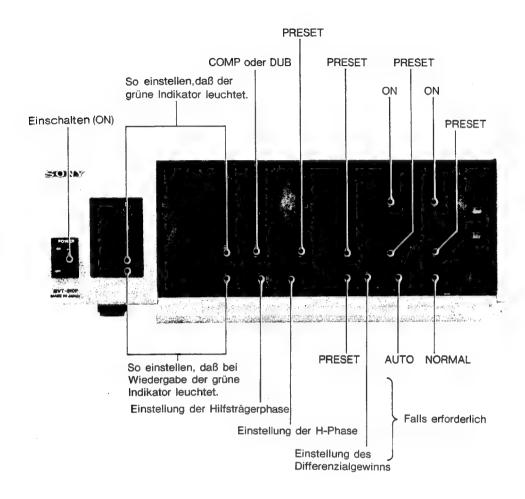


* Wenn ein Videorecorder der Serie BVU-200 verwendet wird, beziehen Sie sich auf 1-3-2.

Bei Gebrauch des VITC sich vergewissern, daß die V-Austastungsschalter für die Zeilen 19 und 21 ausgeschaltet sind.



1-3-5. Normaleinstellung



1-4. TECHNISCHE DATEN

Allgemeine Daten

Spannungsversorgung

100 - 120 V (90 - 132 V) / 220 - 240 V (198 - 264 V)

Wechselspannung einstellbar,

50/60 Hz (48 - 62 Hz)

Leistungsaufnahme

120 W

Betriebstemperatur Lagertemperatur

0°C bis 40°C -10°C bis +60°C

Feuchtigkeit

10% - 90%

(nicht kondensiert)

Abmessungen

424 × 132 × 515 mm

(B/H/T)

Gewicht

15 kg

Video

Bandbreite

COMP IN

Y: $2.5 \, \text{MHz} \pm 0.4 \, \text{dB}$, 3,25 MHz -3 dB $C: \pm 0.7 \, MHz - 3 \, dB$

DUB IN

Y: $3.5 \, \text{MHz} \pm 0.4 \, \text{dB}$, 4,3 MHz -3 dB C: $\pm 0.85 \,\text{MHz} - 3 \,\text{dB}$

Signal-Rauschabstand

55 dB

DG

2% 2°

DP K-Faktor (2T-Impuls)

COMP IN: 4%

DUBIN: 2%

Chroma/Luminanz-Verzögerung

10 nsec

Korrekturbereich

29 H (ss)

Restfehler

Farbe: ± 2,5 nsec

Schwarzweiß: ± 15 nsec

Eingangssignal

Band-Videosignal

FBAS 1,0 V ss ± 3 dB

(einstellbar), 75 Ohm

DUB IN

Luminanz: 0,5 V ss ± 3 dB

(einstellbar), 75 Ohm

Chroma: 0,5 V ss, 75 Ohm

DOC-HF-Signal

Referenz-FBAS-Signal

0,5 V ± 6 dB, 75 Ohm 1,0 V ss ± 3 dB, 75 Ohm

(ein-/ausschaltbar)

Ausgangssignal

Voreilende Synchronisation

 $2.2 \text{ V} \pm 0.3 \text{ V}$, 75 Ohm

Videoausgang

1:1.0 Vss

2:1,0 Vss

3: 1,0 Vss / 0,7 Vss (FBA-Signal)

Ausgang

Videopegel

 $\pm 3 dB$

Chromapegel

 $\pm 3 dB$

Schwarzpegel

0 - 0.11 V

Burst/Chroma-Phase

 $\pm 15^{\circ}$ ± 20 %

DG-Kompensation System-Sync-Phase

-1 bis $+3 \mu$ sec

System-HT-Phase

größer als ± 180°

Y/C-Verzögerung

±150 nsec

Chroma-Störsignalverminderung

2 - 6 dB

Mitgeliefertes Zubehör

Verlängerungsleiterplatte EB-9A ··· 1

Gestellmontagesatz ··· 1

(Griff ... 2, Schraube B4×12 ... 4,

Schraube K4×10 ··· 4)

Mehradriges Kabel ··· 1

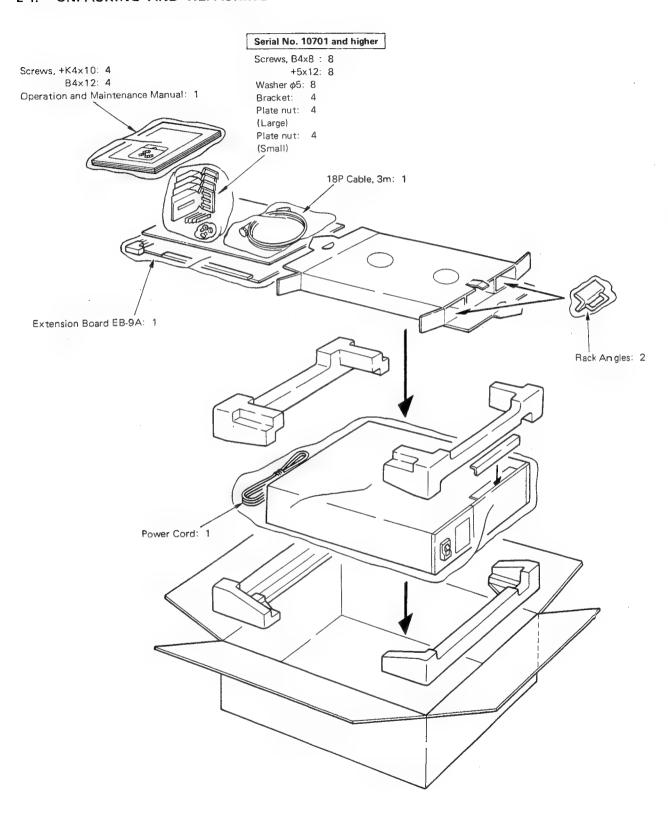
Bedienungs- und Wartungsanleitung ··· 1

Änderungen, die dem technischen Fortschritt dienen,

bleiben vorbehalten.

SECTION 2 INSTALLATION

2-1. UNPACKING AND REPACKING

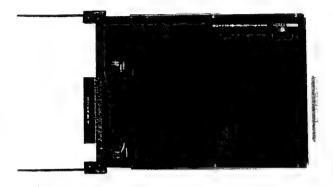


2-2. ACCESSORIES

2-2-1. Supplied Accessories

Extension Board EB-9A: 1

Used for checking and repairing the plug-in boards.



RACK ANGLES: 2

B4×12 : 4 +K4×10: 4

The following parts are added.

BRACKETS: 4

PLATE NUTS (SMALL): 4
PLATE NUTS (LARGE): 4

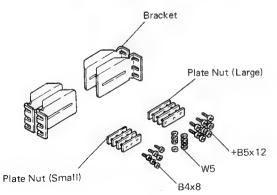
SCREWS B4×8 : 8

+B5×12: 8

WASHERS: 8

Used for installing into the rack. (For S/N 10701 and higher)





18P Cable: 1

3 meter long 18P multi-core cable for connection of BVT- 810P and VTR.



Operation and Maintenance Manual: 1

2-2-2. Optional Accessories

SONY Remote Control Unit BK-2007; 1 pc

Sliding Rails for Rack Mounting: 1 pair

ACCURIDE Model 203 (18", 20" or 22" in length)

Rails for mounting BVT-810P to the rack.

The above parts should be ordered directly from the manufacturer:

STANDARD PRECISION INC.

12311 S, SHOEMAKER AVENUE SANTA FE SPRINGS, CALIFORNIA 90670

TEL (213) 944-6236

2-3. MATCHING CONNECTOR AND CABLE

VTR Connector

Use 18P multi-core cable supplied (length 3 m) and no other cables.

DUB IN Connector

Use 7-pin VDC-5 cable (length 5 m) or VDC-3 (length 2 m). One cable is supplied with Sony BVU-200 series and BVU-800 series VTRs.

REMOTE Connector

Use the 15-pin ribbon cable supplied with SONY Remote Control Unit BK-2007.

Other connectors are all BNC type.

2-4. POWER REQUIREMENTS

Power Line Voltage AC

AC100-120/220-240 V switchable

100-120 V mode

AC90 to 132 V

220-240 V mode Power Line Frequency AC198 to 264 V 48 to 62 Hz

Power Consumption

48 to 62 H

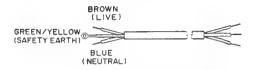
Power Cable

120 W

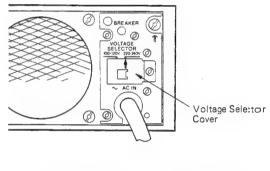
Approx. 2.5 m in length

An AC plug should be locally pre-

pared and mounted.



When changing the line voltage, remove the cover, set the voltage selector in accordance with the power line voltage to be used and place the cover.







2-5. INSTALLATION CONDITIONS

Operating Condition Temperature 0° to +40°C

Humidity 10 to 90% (noncondensing)

Storage Condition Temperature −10° to +60°C

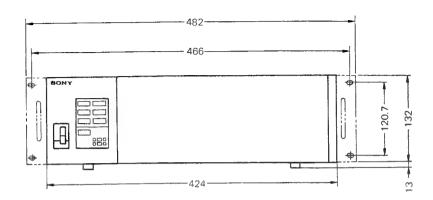
Humidity 10 to 90%

Do not install in the following locations.

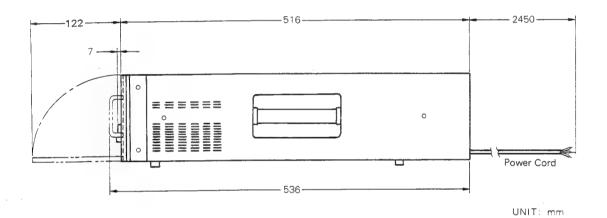
- 1. Dusty places
- 2. Places subjected to vibration
- 3. Places exposed to strong magnetic or elegric fields
- 4. Places exposed directly to sun light or powerful light

2-6. INSTALLATION SPACE

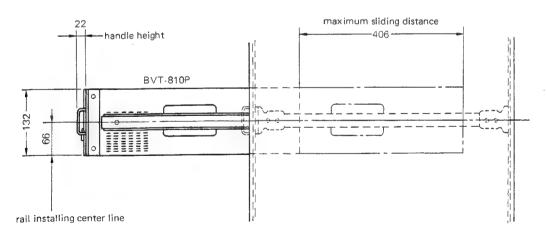
Front



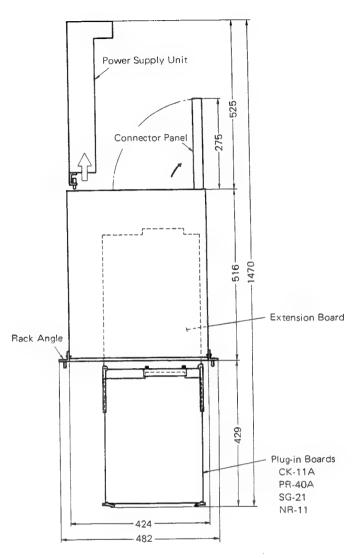
Right Side



Rack Mounting



UNIT: mm



UNIT: mm

2-7. RACK MOUNTING

Parts to be prepared

Slide Rails: 1 pair

(One pair consists of two inner members and two outer

members.)

Manufactured by Accuride

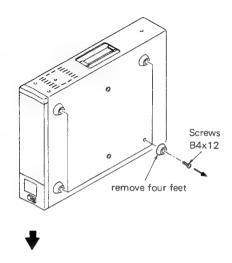
Model 203 (18", 20" or 22" in length)

Inner Member Fixing Screws: 4

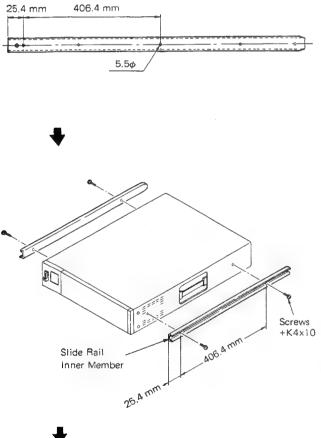
Brackets: 4

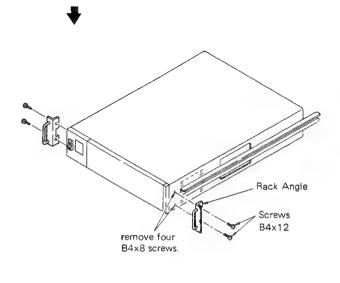
Brackets Fixing Screws and Nuts: 1 set

Rack Angles: 2

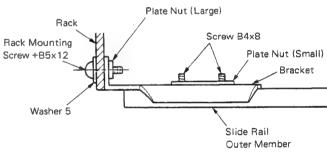


Make a 5.5 mm dia. hole in the inner member only the rail of $20^{\prime\prime}$ in length.



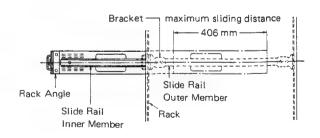


Assemble the two brackets with right side and left side outer members. Mount these same brackets to the rack and tighten the brackets with fixing screws.



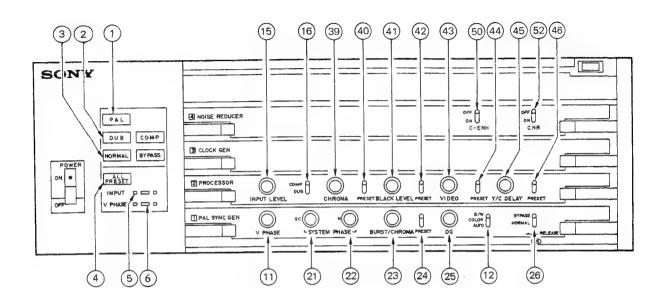
•

Mount the equipment to the rack.

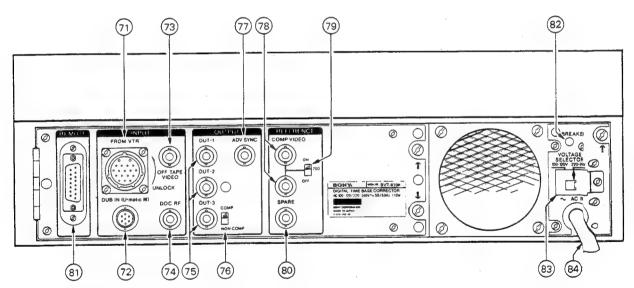


2-8. SWITCH AND CONTROL SETTING

FRONT PANEL

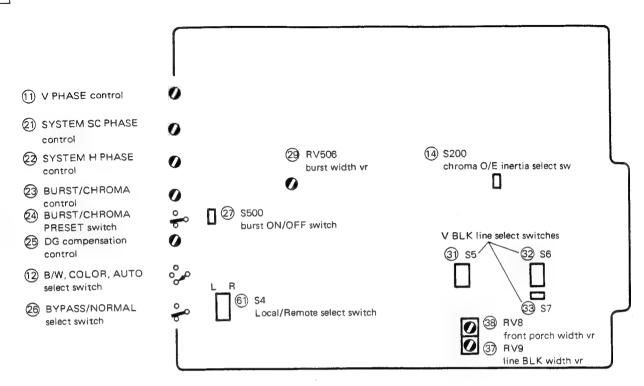


REAR PANEL

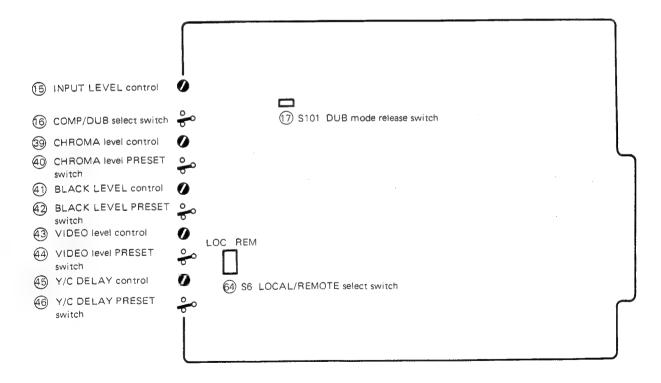


Note: The functions of each switch/control are described in the following sections.

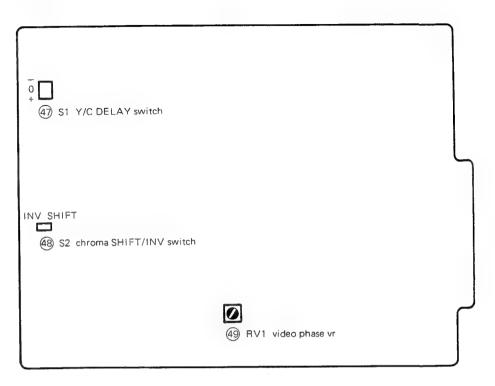
- 1 to 6: section 2-9-1. Indicator Panel
- 1) to 17: section 2-9-2. For Video Input Signal
 21) to 49: section 2-9-3. For Video Output Signal
- 61 to 64 : section 2-9-4. For Remote Control
- (7) to (84): section 2-9-5. Connector Panel



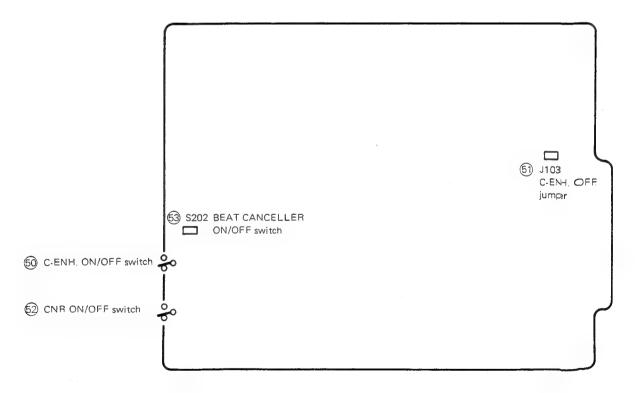
2 PROCESSOR board (PR-40A board)



3 CLOCK GEN board (CK-11A board)



4 NOISE REDUCER board (NR-11 board)



2-8-1. Indicator Panel

1 PAL indicator

PAL indicator lights.

2 DUB/COMP indicators

When the COMP/DUB switch set to DUB or the BVU-800 series VTR is connected to the FROM VTR connector with multi-cable, the DUB indicator will light.

In other case, the COMP indicator will light.

(3) NORMAL/BYPASS indicators

NORMAL or BYPASS indicator will light depending on setting of 26 BYPASS/NORMAL select switch.

(4) ALL PRESET indicator

This indicator will light when all the following switches on the BVT-810P are set to PRESET position.

- 24) BURST CHROMA PRESET switch
- 40 CHROMA level PRESET switch
- 42 BLACK LEVEL PRESET switch
- 44 VIDEO level PRESET switch
- (46) Y/C DELAY PRESET switch

Note: When BVT-810P is remote-controlled, this indicator has no relation to the manual/preset mode of the remote controller.

(5) INPUT level indicator

The proper input level is indicated in green on this indicator by observing the level of the off tape video signal.

6 V PHASE indicator

The BVT-810P delays the output signal by 16H to the input signal so that the playback signal of the VTR is advanced by 16H to the reference signal.

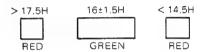
If the delay of the playback signal is in the range of 16H±1.5H, the green portion of this indicator will light.

2-8-2. For Video Input Signal

1 SYNC GEN board (SG-21 board)

(11) V PHASE control

When the VTR is in the normal playback mode, the playback signal can be adjusted so that it advances by 16H to the reference signal. The proper level is indicated in green on the V PHASE indicator.



Note: When the VTR is in E-E mode, the off tape video signal and the reference signal become in phase; the red lamp indicating 'less than 14.5H' lights.

(12) B/W/COLOR/AUTO select switch

The TBC operates in the color or black and white mode corresponds to the signal connected to the OFF TAPE VIDEO input connector. Set this switch to the position which corresponds to the connected signal.

B/W: Regardless of whether the input signal is color or black and white, the input signal is treated as a monochrome signal.

However, if this switch is set to B/W when the input video signal is color and TBC is in the COMP mode, the color of TBC output becomes free.

If this switch is set at B/W when the TBC is in DUB mode, the TBC output has no chrominance signal regardless of whether the input signal is color or B/W.

See the note.

COLOR: Regardless of whether the input signal is color or B/W, the input signal is treated as a color signal.

AUTO: The input signal is identified as a monochrome signal or a color signal by its burst signal level. When the burst signal level is below the reference level (300 mV) by 12±3 dB, the signal is identified as a monochrome signal.



NOTE: The TBC out burst can be controlled ON/OFF by 27 \$500 burst ON/OFF switch on SG-21 board. It is set to OFF when the set is shipped from the factory.

When the tape speed of the VTR is $\pm x5$ or more, BVT-810P takes the video signal as a B/W signal regardless of other conditions. 27 S500 on the SG-21 board is active in this case also.

tape speed of VTR	video input	12 B/W COLOR AUTO switch	DUB COMP mode	burst ON/OFF switch	TBC output
	B/W (Y)	B/W or AUTO	X	OFF	B/W without burst (Y)
	color (Y+C+B)	B/W	DUB	OFF	
	B/W (Y)	×	X	ON	
<±×5	B/W (Y)	color	X	OFF	B/W with burst (Y+B)
	color (Y+C+B)	B/W	DUB	ON	
	color (Y+C+B)	COLOR or AUTO	×	×	color with burst (Y+C+B)
	color (Y+C+B)	B/W	COMP	OFF	B/W without burst (*) (Y+C)
	color (Y+C+B)	B/W	СОМР	ON	color with burst (*) (Y+C+B)
	×	×	×	OFF	B/W without burst (Y)
≧±x5	×	×	×	ON	B/W with burst (Y+B)

Y: luminance signal

B: burst signal

C: chrominance signal

X: irrelevant

^(*) The phase of the chrominance signal becomes free. Not applicable.

(14) S200: chroma O/E inertia select switch

BVT-810P judges the odd/even (135°/225°) of the video input chrominance signal by detecting the burst. When missing the burst signal due to dropouts and weak head-to-tape contact, BVT-810P memorizes the last O/E data. If the memorized O/E data is different from the new O/E data that is detected from the burst signal which appears again, BVT-810P utilizes the new data after 16 lines S200 is OFF or after 32 lines when S200 is ON.

When the VTR is in BIDIREX mode (i.e. playback by R/P head excepting FWDx1 speed), the TBC operates in "32 lines" regardless of S200 ON/OFF. S200 is set to OFF when the set is shipped from the factory.

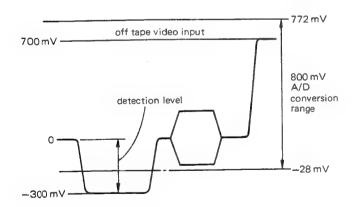
PROCESSOR board (PR-40A board)

15 INPUT LEVEL control

The video input level can be adjusted within a range of +3 dB

The adjusted level is shown on (5) INPUT indicator. The green lamp will light when the level is correct. The indicators show the level of the sync signal portion of the off tape video input as the level of the off tape video signal. In other words, they indicate a sync signal level 300 mV as an off tape video input level 700 mV (without sync).





16 COMP/DUB select switch

(17) S101: DUB mode release switch

In the DUB mode, the TBC processes the Y and C signals without performing the Y/C separation. While in the COMP mode, the TBC performes the Y/C separation in it, and processes the Y and C signals. The DUB mode produces a better picture than the COMP mode.

When the VTR with 18-pin multiple TBC connector, such as BVU-800 series VTR, is connected to BVT-810P with 18-pin multiple cable, the BVT-810P put into the DUB mode automatically. When 17 DUB mode release switch set to OFF, the BVT-810P can be put into COMP mode as the following table.

The DUB mode release switch is set to ON, when the set is shipped from the factory.

16 COMP/DUB switch	17 DUB mode release sw	mode of BVT-810P		
DUB	ON	DUB		
COMP	ON	DUB		
DUB	OFF	DUB		
COMP	OFF	COMP		

When Sony BVU-200P is connected with 7-pin VDC cable, the DUB mode should be selected by the COMP/DUB select switch.

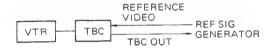
When the VTR is except the above-mentioned type, even though it is equipped with a DUB OUT connector, the off tape video signal must be inputted to BVT-810P BNC connector and the COMP mode must be selected by the COMP/DUB select switch.

2 DUB or COMP indicator lights according to the DUB or COMP mode.

2-8-3. For Video Output Signal

- 1 SYNC GEN board (SG-21 board)
- (21) SYSTEM SC PHASE control
- 22) SYSTEM H PHASE control

These two controls are used for compensating the delay of sync and SC (burst) caused by the cable length between the Referense Signal Generator and the TBC. It is used, for example, when it is required to equalize the sync and SC (burst) phase of the TBC output to the reference signal phase by sending the TBC output back to the reference signal generator.



SYSTEM H PHASE can be adjusted in the range of -1 to $+3~\mu s$. SYSTEM SC PHASE control has the adjustable range of 360° so as to be able to adjust any phase to the reference. The SYSTEM SC PHASE control does not affect the H PHASE.

- 23 BURST/CHROMA control
- 24 BURST/CHROMA PRESET switch

manual: The chroma phase of the output signal against the burst signal is adjusted by the BURST/CHROMA control within the range of $\pm 15^{\circ}$. The phase relationship between the burst of the reference video signal and the burst of the TBC output signal is not affected by rotating the BURST/CHROMA control.

PRESET: Irrespective of the BURST/CHROMA control position, the chroma phase of the output signal against the burst signal becomes identical to the one of the video input signal.

25 DG compensation control

The DG of the TBC output can be compensated by this control within the range of $\pm 20\%$. DG compensation is 0 in the mechanical center.

26) BYPASS/NORMAL select switch

BYPASS: The bypassed output appears at the TBC output and 3 BYPASS indicator lights. When the 7-pin VDC cable is connected, the off tape video signal for the bypassed output is fed from the OFF TAPE VIDEO IN BNC connector.

In the BYPASS mode, the sync signal of VIDEO OUT 3 is not controlled ON/OFF by O COMP/NON COMP select switch.

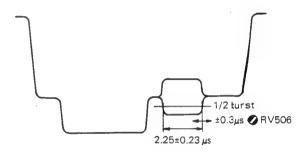
When the TBC power is OFF, the BYPASS output goes off too.

NORMAL: The time base error of the input signal is corrected before the signal is fed out, and 3 NORMAL indicator lights. Normally set to this position.

27 S500: burst ON/OFF switch See 12 B/W, COLOR, AUTO select switch.

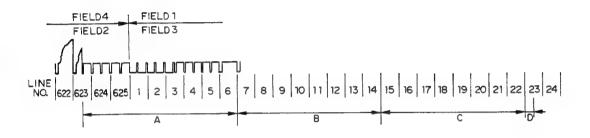
factory.

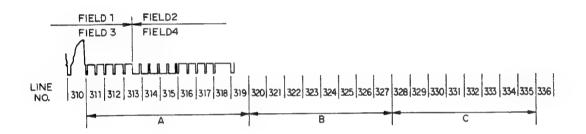
29 RV506: burst width vr The burst width of the TBC output signal is varied approximately $\pm 0.3 \,\mu s$ by this vr. The burst width is set to $2.25\pm 0.23 \,\mu s$ when the set is shipped from the



3) S5:
32 S6:
33 S7:
V blanking line select switches

The blanking of any line up to lines 7(320) - 23(335) of the TBC output signal can be turned ON/OFF.

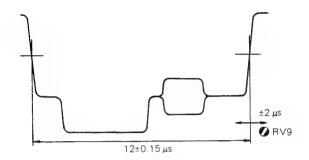




- A: Having no connection with switches S5, S6 and S7, blanking is always performed.
- B: Blanking of any line is turned ON/OFF by \$5.
- C: Blanking of any line is turned ON/OFF by S6.
- D: Blanking is turned ON/OFF by \$7.
- All these switches are set ON when the set is shipped from the factory.

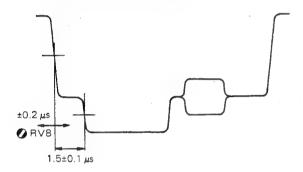
(37) RV9: line blanking width vr

The line blanking width of the TBC output signal can be varied approximately $\pm 2 \mu s$.



38 RV8: front porch width vr

The front porch width of the TBC output signal can be varied approximately $\pm 0.2\,\mu s$.



2 PROCESSOR board (PR-40A board)

39 CHROMA level control

(40) CHROMA level PRESET switch

manual: The chroma level of the output signal can be adjusted within the range of ± 3 dB.

Be careful not to saturate the chrominance signal of the video output. If the off tape video input is a 100% color-bar signal, the chrominance signal of the BVT-810P video output is saturated at +3 dB. The "+3 dB" means the total amount varied by 25 DG compensation, 39 CHROMA level and 43 VIDEO level controls.

PRESET: Irrespective of the CHROMA level control position, the chroma level of the output signal becomes identical to the input chroma level.

(41) BLACK LEVEL control

(42) BLACK LEVEL PRESET switch

manual: The black level of the output signal can be adjusted the BLACK LEVEL control within the range from 0 to 100 mV against the input signal.

PRESET: Irrespective of the BLACK LEVEL control position, the black level of the output signal becomes identical to the input signal black level.

43 VIDEO level control

(44) VIDEO level PRESET switch

manual: The video level of the output sgnal (luminance signal and chrominance signal can be adjusted the VIDEO level control within the range of ±3 dB. The sync signal level is constant at 300 mV regardless of the VIDEO level control.

PRESET: Irrespective of the VIDEO level control position, the video level of the output signal becomes identical to the input video level. The sync level is constant at 300 mV.

manual: The chrominance signal phase against the luminance signal of the video output can be varied by the Y/C DELAY control within the range of ± 150 ns. The adjustable range can be shifted by \bigcirc S1 Y/C DELAY switch on CLOCK GEN board. See the following table.

PRESET: The Y/C delay control becomes inactive but (47) S1 is active in this case also.

46 Y/C DELAY PRESET switch	47 Y/C DELAY switch	chrominance signal phase against luminance signal			
	+	+180 ± 150 ns	adjustable		
manuai	0	0 ± 150 ns	by (45) Y/C		
	_	-180 ± 150 ns	control		
	+	+180 ns			
PRESET	0	0 ns			
	_	_180 ns			

- +: Chrominance signal is advanced
- O: The output chrominance signal phase against the luminance signal is identical to the input signal.
- -: Chrominance signal is delayed.

47 Y/C DELAY switch is set at 0 position when shipped from the factory.

- 3 CLOCK GEN board (CK-11A board)
- S1: Y/C DELAY switch
 See Sy/C DELAY control.

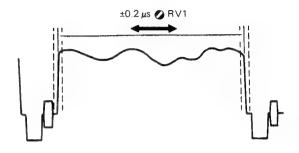
48) S2: chroma SHIFT/INVert switch

When the odd/even (135°/225°) of the input chrominance signal does not coincide with one of the reference signal, the input chrominance signal is shifted one line or inverted in the TBC to coincide with the reference signal.

In BVT-810P, when the VTR is in the normal playback mode (i.e. FWDx1 speed playback by R/P head), the odd/even of the input signal coincides with the reference signal by inversion regardless of this switch. When the VTR is in BIDIREX or DT play mode (i.e. playback by R/P head excepting FWDx1 speed or playback by DT head), inversion or one line shift can be selected by this switch. This switch is set to SHIFT position when the set is shipped from the factory.

(49) RV1: video phase vr

The video phase of the TBC output signal can be con-This switch is set to coincide with the video phase of the bypass output when the set is shipped from the factory.



4 NOISE REDUCER board (NR-11 board)

50 C-ENH (Chroma Enhancer) ON/OFF switch

When the BVT-810P is set to DUB mode and the playback signal of the VTR is connected to the TBC input, set this switch to ON, the raising edge and the falling edge of the output chroma signal (contour of chroma signal) are enhanced.

Note: • When the E-E signal is connected to the TBC input, even though this switch set to ON, the chroma enhancer circuit does not operate.

- When the BVT-810P is set to COMP mode, even though this switch set to ON, the chroma enhancer circuit does not operate too.
- •If the 51 jumper socket, J103 on the NR-11 board is removed, even though BVT-810P is set to COMP mode, the chroma enhancer circuit operates by setting the C-ENH switch to ON.

(52) CNR (Chroma Noise Reducer) ON/OFF switch

When the playback video signal is connected to the BVT-810P input, set this switch to ON, the chroma signal signal-to-noise ratio of BVT-810P output is improved about $3\sim6$ dB.

Note: When the E-E signal is connected to the TBC input, even though this switch set to ON, CNR circuit does not operate.



(53) S202: BEAT CANCELLER ON/OFF switch

When the BVT-810P is connected with the BVU series VTR, the secondary beat of chroma down converted carrier that is remaining into the VTR output signal is also remained in the TBC out. Therefore, this secondary beat sometimes appears on the monitor screen. In this case, turn ON the Beat Canceller ON/OFF switch, the secondary beat is cancelled in the TBC.

S202, Beat Canceller ON/OFF switch is set OFF position when the set is shipped from factory.

2-8-4. For Remote Control

The following functions can be remote-controlled from Sony BK-2007 Remote Control Unit.

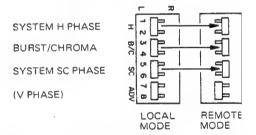
VIDEO level control & manual/PRESET select CHROMA level control & manual/PRESET select BLACK LEVEL control & manual/PRESET select BURST/CHROMA control & manual/PRESET select SYSTEM H (SYNC) PHASE control SYSTEM SC PHASE control

Note 1. Take notice that the ALL PRESET indicator on the BVT-810P has no relation to the setting of the remote controller.

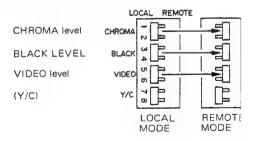
Note 2. The above controls and manual/PRESET switches can be controlled from BK-2007 by setting the following switches in BVT-810P to REMOTE position.

Note 3. V PHASE cannot be controlled from BK-2007 but its LOCAL/REMOTE is selectable by 61 S4. If you make a remote controller that is different from BK-2007, you can control V PHASE from the remote controller and also indicate V PHASE on the controller.

- 61) S4: Local/Remote select switch
 (1 SYNC GEN board)
- 64 S6: LOCAL/REMOTE select switch
 (2 PROCESSOR board)
- (1) S4 (1) SYNC GEN board)



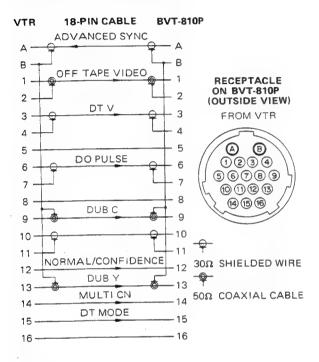
64 S6 (2 PROCESSOR board)



2-8-5. Connector Panel

(71) FROM VTR connector (18-pin, male)

Connect to the TBC connector on the BVU-800 series VTR with the supplied multi-core cable. (Do not use other cable.) This connection cuts the input to the OFF TAPE VIDEO connector.



BVT-810P output signal

ADVANCED SYNC

 $2.2 \text{ Vp-p} \pm 0.3 \text{ Vp-p} 75 \text{ ohms}$

composite

negative polarity

The phase is in advance of the reference signal by 16H and $\pm 1.5H$ adjusted by 11 V PHASE control. In the confidence mode (simultaneous playback), the phase is not guaranteed.

BVT-810P input signal

OFF TAPE VIDEO

1 Vp-p 50 ohms ±3 dB adjustable sync negative

DUBY

off tape luminance signal 0.5 Vp-p (sync tip to 100% white) 75 ohms ±3 dB adjustable sync negative

DUBC

off tape chrominance signal (down converted by U-matic H VTR)

0.5 Vp-p (75% color-bar) 75 ohms

When the pin 14 "MULTI CN" is grounded at the VTR, BVT-810P gives priority automatically to OFF TAPE VIDEO, DUB Y and DUB C signals over BNC OFF TAPE VIDEO input. Refer to (6) COMP/DUB select switch. The pin 1 OFF TAPE VIDEO signal is used for BYPASS video only.

DT V

TTL level, falling edge reference.

DO PULSE

TTL level, dropout: LOW

When the 18-pin multi cable is used, the BNC "DOC

RF" signal is not needed.

NORMAL/CONFIDENCE

TTL level

confidence mode (simultaneous playback): Low

MULTI CN

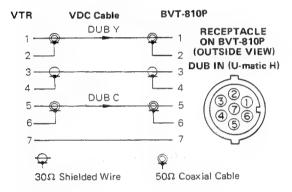
grounded at VTR.

DT MODE

TTL level, DT mode: LOW

72 DUB IN (U-matic H) connector (7-pin, male)

Connect to the DUB OUT connector on the BVU-200P and BVT-810P with VDC cable. Then, the wide bandwidth picture can be obtained. When this connector is used, set the COMP/DUB switch on the front panel to DUB. When the VTR is connected with the TBC by 18-pin cable, the VDC cable connection is not needed. When connect the VTR equipped with a DUB OUT connector except BVU-200 series and BVU-800 series VTRs, it is not necessary to connect the TBC by VDC cable. The off tape video signal must be put into the OFF TAPE VIDEO IN connector (BNC type), and select the 16 COMP/DUB switch to COMP mode.



DUB Y input

off tape luminance signal
0.5 Vp-p (sync tip to 100% white) 75 ohms
±3 dB adjustable
sync negative

DUB C input

off tape chrominance signal (down converted by U-matic H VTR)

0.5 Vp-p (75% color-bar) 75 ohms

(73) OFF TAPE VIDEO connector (BNC connector)

1 Vp-p 75 ohms ±3 dB adjustable sync negative

Connect to the video out connector on the VTR. When connect the VTR equipped with a DUB OUT connector except BVU-200 series and BVU-800 series VTRs, its off tape video signal must be inputted to this BNC connector and it must not be connected by VDC cable.

In this case, set the COMP/DUB switch to COMP. tape video signal from the multi-core cable is given When the 7-pin VDC cable is connected to the DUB IN connector, the off tape video signal (DUB Y and DUB C signals) is fed from the DUB IN connector and 16 COMP/DUB select switch should be set to DUB. In this case, the OFF TAPE VIDEO IN signal from the BNC connector is used for BYPASS video.

When the 18-pin multiple cable is connected, the off tape video signal from the multi-core cable is given priority.

74 DOC RF connector (BNC connector)

 $0.5 \text{ Vp-p} \pm 6 \text{ dB } 75 \text{ ohms}$

Connect to the RF (OFF TAPE) connector on the VTR. When the 18-pin multi-core cable is connected, DOC RF signal is not needed.

75 VIDEO OUT 1, 2, 3 connectors (BNC connector) and 76 COMP/NON COMP switch

1 Vp-p 75 ohms

sync negative

Sync signal of VIDEO OUT 3 is ON/OFF controlled by the COMP/NON COMP switch, however, in the BYPASS mode, the composite signal is always outputted.

(77) ADV SYNC connector (BNC connector)

 $2.2 \text{ Vp-p} \pm 0.3 \text{ Vp-p} 75 \text{ ohms}$

composite

negative polarity

The sync signal which has been advanced by 16H against the reference signal is outputted here. Connect to the sync input on the VTR. The "ADV SYNC" phase is in advance of the reference signal by 16H and ±8H adjusted by 1 VPHASE control. In the confidence mode (simultaneous playback), the phase is not guaranteed.

Connect to the SYNC IN or VIDEO IN connector on the VTR. When an 18-pin multi-core cable is used, the connection by the BNC connector is not needed.

78 REFERENCE COMP VIDEO connector

(BNC connector) and 79 75 ohm ON/OFF switch composite video or black burst signal

 $1 \text{ Vp-p} \pm 3 \text{ dB} 75 \text{ ohms}$

(sync: $300 \text{ mV} \pm 3 \text{ dB}$, burst: $300 \text{ mV} \pm 3 \text{ dB}$)

Connect the reference signal (BS or VBS). If the input signal is not inputted, the TBC operates with its internal reference signal. These two connectors are in "loop-through" configuration so that the input signal to one connector is fed directly to the other. When a loop-through output is used, be sure to set the 75 ohm termination switch to OFF. If such an output is not used, set the switch to ON.

80 SPARE connector (BNC connector)

It is not wired to the inside circuit. Use it when necessary to the modification.

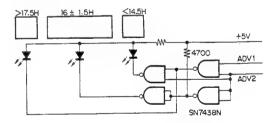
(81) REMOTE control connector (D-sub 15-pin, male)

Connect the BK-2007 remote control unit to control the BVT-810P remotely. Use the 15 conductors ribbon cable (2 m) supplied with BK-2007.

Local or Remote mode is selected by the switches on the circuit board. Refer to section 2-8-4. For Remote Control.

	mote ntroller	BVT-	810P	
	SYSTEM H PHASE CONTRO)L	1	
1.	BURST/CHROMA CONTROL		2	
2 ·	SYSTEM SC PHASE CONTROL		3	
	VIDEO LEVEL CONTROL		4	RECEPTACLE ON BVT-810P
4	BLACK LEVEL CONTROL			OUTSIDE VIEW)
5	CHROMA LEVEL CONTRO	L	6	REMOTE
6	-12 V		7	
,	GND		. 8	(<u>@</u> @)
8	GND		. g	100
9	+5 V	(*3)	· 10	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
10	ADV 1	(*2)	-11	100
11	ADV 2	(*2)	12	(4)
12	V PHASE CONTROL	(*1)		(B)
13	-5 V	(*3)		
14	+12 V		- 15	
15			- 10	

- (*1) BK-2007 has not V PHASE control function but if you make a remote controller different from BK-2007, this function becomes operative. Refer to the section 2-8-4. For Remote Control.
- (*2) BK-2007 cannot indicate V PHASE on it but if you make a remote controller different from BK-2007, these signals enable to indicate V PHASE on the remote controller as same as 6 V PHASE indicators on the BVT-810P.



(*3) BK-2007 does not utilize ±5 V directly. When making a remote controller, these ±5 V may be convenient.

82 BREAKER

AC 250 V 1.6 A

When the current exceeds the rated value, the BREAK-ER button turns OFF and the circuit opens. Depressing the button again, it is reset.

83 VOLTAGE SELECTOR

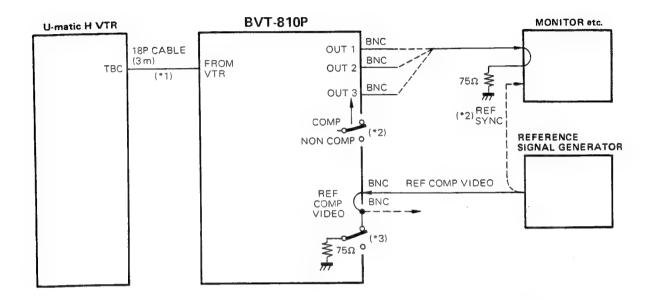
When changing the line voltage, move this left or right in accordance with the power line voltage. See section 2-4. Power Requirements.

84 power cord

When the set is shipped from the factory, no AC plug may be mounted. If not, prepare and mount a 3-pin plug. When mounting the plug to the power cord, be careful to the polarity. See section 2-4. Power Requirements.

2-9. CONNECTION EXAMPLES

Connection 1: U-matic H VTR with an 18-pin TBC connector (Ex. BVU-800P, BVU-820P)



(*1) 18-pin cable & COMP/DUB mode

When connected by an 18-pin cable, BVT-810P operates in the DUB mode regardless of the COMP/DUB select switch position.

(*2) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.

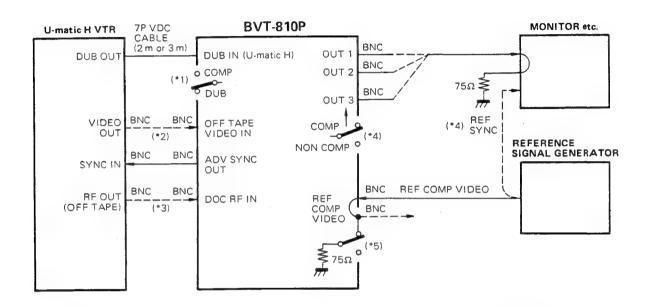
When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*3) REF COMP VIDEO & 75Ω switch

When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

Connection 2: U-matic H VTR with a 7-pin DUB OUT connector (Ex. BVU-200P)

Note: Not applicable to a regular U-matic VTR, even though it is equipped with a 7-pin DUB OUT connector. Refer to Connection 3 for the regular U-matic VTR.



(*1) COMP/DUB select switch Set the switch to DUB.

(*2) OFF TAPE VIDEO IN

In the BYPASS mode, this signal is needed.

(*3) DOC RF IN

DOC in the TBC is impossible unless the off tape RF signal of the $\ensuremath{\mathsf{VTR}}$ is connected.

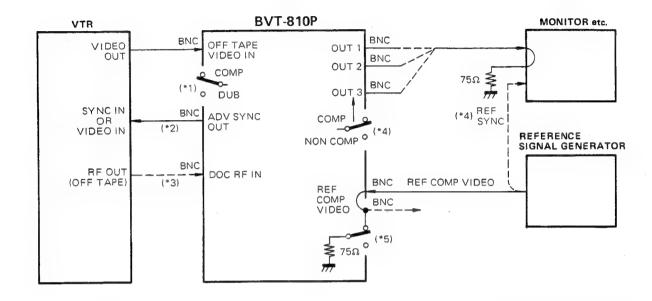
(*4) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.

When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*5) REF COMP VIDEO & 75Ω switch

When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

Connection 3: VTR equipped with a capstan servo



(*1) COMP/DUB select switch Set the switch to COMP.

(*2) ADV SYNC OUT

When the VTR has no SYNC IN connector, connect to the VIDEO IN connector.

(*3) DOC RF IN

DOC in the TBC is impossible unless the off tape RF signal of the VTR is connected.

(*4) OUT 3, COMP/NON COMP switch & REF SYNC signal to the monitor etc.

When the COMP/NON COMP switch is set to NON COMP, the OUT 3 has no sync signal and the reference sync input is needed for the monitor etc. In the BY-PASS mode, OUT 3 also outputs the composite signal.

(*5) REF COMP VIDEO & 75Ω switch

When looping the reference composite video signal (or black burst signal), set the 75 ohm switch to OFF and when terminating it, set it to ON. If no signal is inputted, the TBC operates with its internal reference signal.

2-10. SPECIFICATIONS

GENERAL

Dimensions

424(w) x 132(h) x 515(d) mm

Weight

15 kg

Power requirements

AC100-120/220-240 V selectable

100-120 V mode: AC90 to 132 V

220-240 V mode: AC198 to 264 V

48 to 62 Hz

120 W

Operating conditions

Temperature 0° to +40°C

Storage temperature

-10°C to +60°C

Humidity

10 to 90% (non condensing)

VIDEO

Band width

DUB IN

Y: $3.5 \, \text{MHz} \pm 0.4 \, \text{dB}$

4.3 MHz -3 dB

C: ±0.85 MHz -3 dB

COMP IN Y: $2.5 \text{ MHz} \pm 0.4 \text{ dB}$

3.25 MHz -3 dB

C: $\pm 0.7 \text{ MHz} - 3 \text{ dB}$

Signal-to-noise ratio

More than 55 dB

(peak-to-peak video to rms noise)

Differential gain

Differential phase 2°

Differential phase 2

K factor (2T pulse)

DUB IN

2%

COMP IN 4%

Chrominance/luminance delay

 $10\,\text{ns}$

Correction range

29 Hp-p

Residual error

Color

±2.5 ns

B/W

±15 ns

INPUT SIGNAL

Off tape video

composite 1 Vp-p ± 3 dB (adjustable),

75 ohms, sync negative

DOC RF

 $0.5 \text{ Vp-p} \pm 6 \text{ dB}, 75 \text{ ohms}$

Reference comp video

1 Vp-p ± 3 dB, sync negative

75 ohms ON/OFF, looping is possible.

DUB IN

Y: $0.5 \text{ Vp-p} \pm 3 \text{ dB}$, 75 ohms

C: 0.5 Vp-p, 75 ohms

OUTPUT SIGNAL

Video output

1: 1.0 Vp-p

2: 1.0 Vp-p

3: 1.0 Vp-p/0.7 Vp-p (non-composite

video)

Advance sync

 $2.2 \pm 0.3 \text{ V } 75 \text{ ohms}$

negative polarity

OUTPUT PROCESS

Video level

±3 dB

Chroma level

±3 dB

Black level

0 to 0.11 V

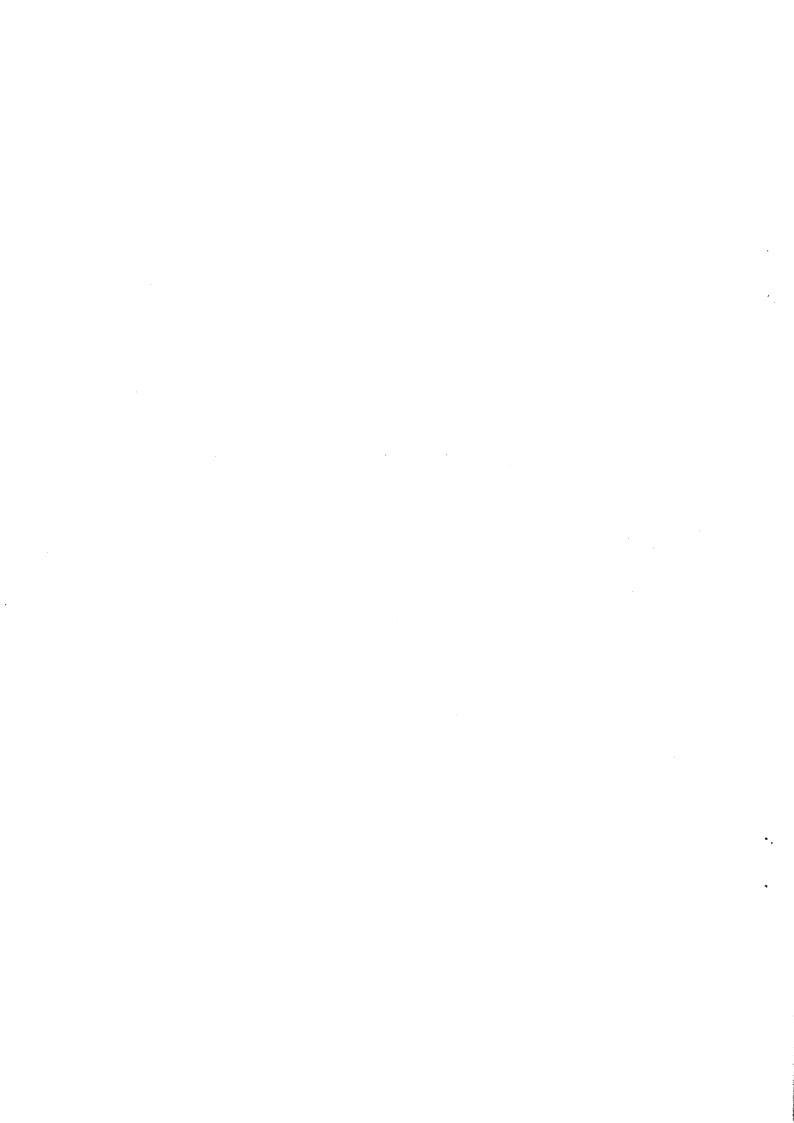
Burst/chroma phase

±15°

DG compensator ±20%

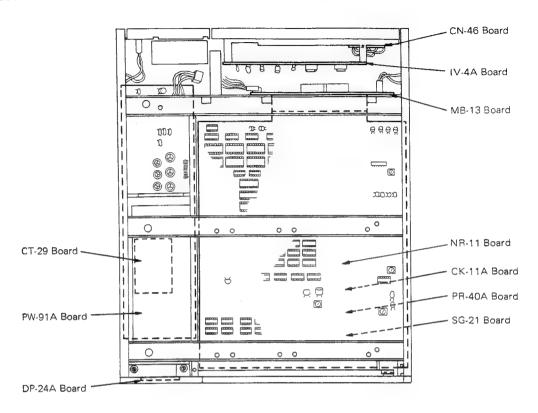
System sync phase -1 to $+3 \mu s$

System sc phase Y/C delay more than $\pm 180^{\circ}$ $\pm 150 \text{ ns}$



SERVICE INFORMATION

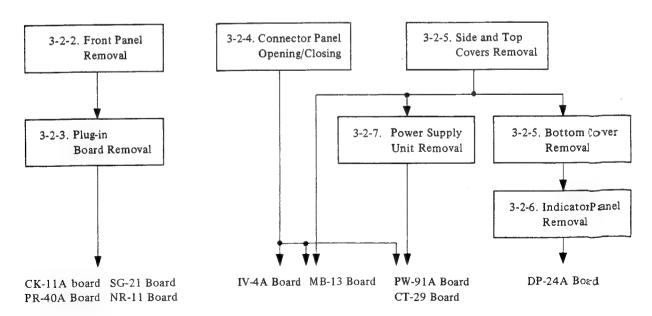
3-1. PRINTED CIRCUIT BOARD LOCATION



3-2. CABINET REMOVAL

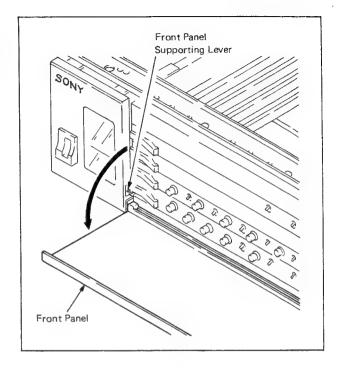
3-2-1. Cabinet Removal Flowchart

The following flow chart is the working procedure to perform the maintenance of each printed circuit board.



3-2-2. Front Panel Removal

Push the upper portion of the front panel to open it and push it again to close it. The front panel is designed to be removable so that the equipment may be used without it. Push the front panel supporting lever using the finger or tip of a screwdriver to remove it.

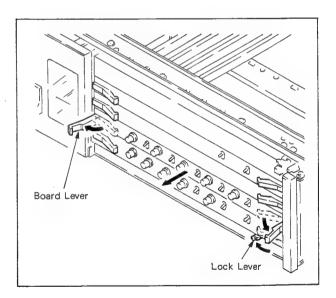




3-2-3. Plug-in Board Removal

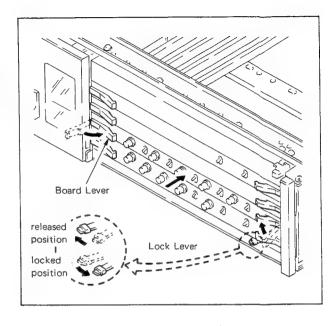
Removal

- (1) Move the lock lever in the direction of the arrow.
- (2) Lift both left and right board levers.
- (3) Pull out the board.



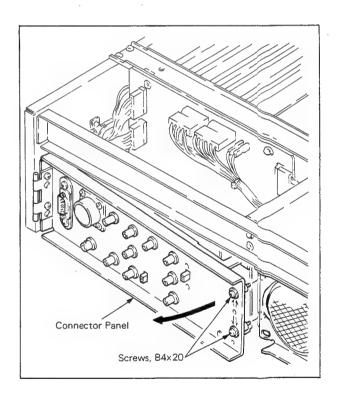
Installation

- (1) Place the lock lever in the released position.
- (2) Place the both left and right side board levers in the pulled up state.
- (3) Insert the printed circuit board into the set, and turn the board levers in the direction of the arrows.
- (4) Move the lock lever in the locked position.



3-2-4. Connector Panel Opening/Closing

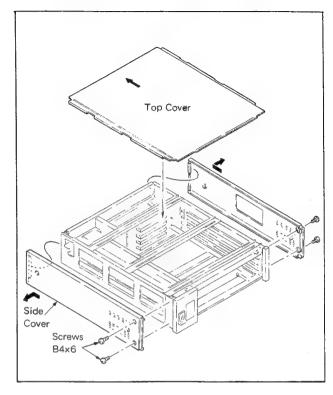
Loosen the two screws and open the connector panel as shown below.



3-2-5. Side, Top and Bottom Covers Removal

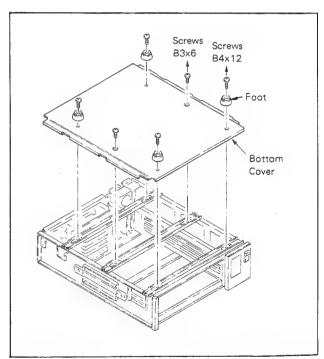
Side and Top Covers Removal

- (1) Remove the B4x6 screws (two on each side) and then remove side covers as shown below.
- (2) Pull the top cover in the direction of the arrow.



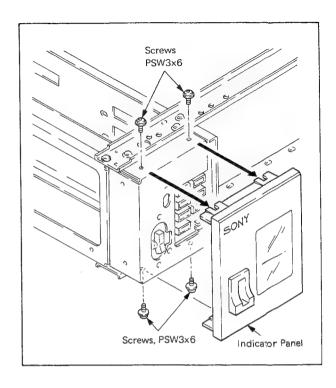
Bottom Cover Removal

(3) Remove the four feet and the two B3x6 screws.



3-2-6. Indicator Panel Removal

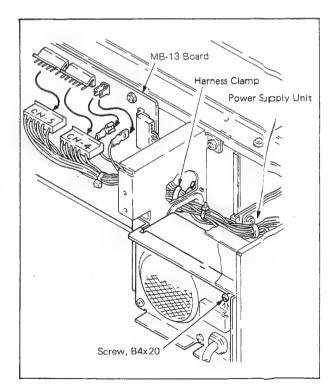
After removing the top and bottom covers, remove the four PSW 3x6 screws as shown below.



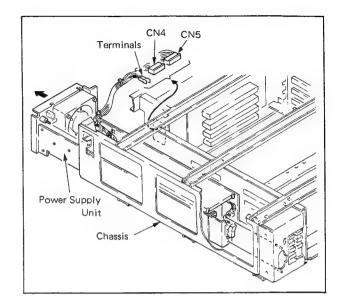
3-2-7. Power Supply Unit Removal

Open the connector panel and pull out the power supply unit as the following procedure:

- (1) Loosen the B4x20 screw.
- (2) Disconnect the connector, CN4, CN5 and the two terminals from the MB-13 board.
- (3) Loosen the harness clamp and push the harness into the power supply unit.

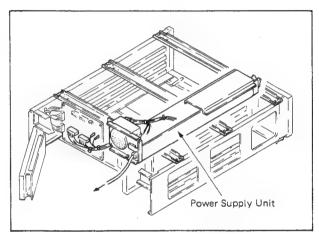


(4) Pull out the power supply unit in the direction of the arrow.



(NOTE) Power supply unit checking method

After removing the power supply unit, place it on the equipment and connect CN4, CN5 and terminals to the MB-13 board. Then turn ON the POWER in this condition.

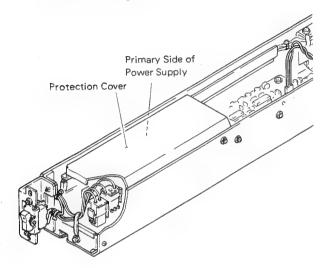




3-3. NOTES WHEN SERVICING

3-3-1. Power Supply Unit

(1) The power supply of this set is composed of the switching regulator. The most of circuit is composed of the primary side. This primary circuit generates the high voltage. Therefore, never touch these parts/component. This area is covered with the protection cover as shown in the figure.



- (2) There is a danger of shock even after switching off the power, due to remaining charge in the capacitors. Never touch these parts/component about one minute after power off.
- (3) Perform checks with CN4, CN5 and two terminals connected to MB-13 board as operation of the power supply unit with no load could damage it.
- (4) A breaker functions when the equipment is powered at AC220-240 V with its voltage selector set to AC100-120 V.
- (5) The equipment does not operate if the input voltage is below the rated value, i.e., it will not operate at AC110-120 V with its power voltage selector set at AC220-240 V.
- (6) If the power supply stops generating during use due to abnormal conditions, it will not restart unless switched on again. One minute or more must be allowed for restarting.

3-3-2. Plug-in Board Lock Mechanism

This model is equipped with a lock mechanism to avoid detaching the plug-in boards. Move the lock lever to the left to release the boards and to the right to lock them. When inserting or removing a board, first unlock and then use the board levers. See Section 3-2-3 "Plug-in Board Removal".

3-3-3. Square Type Fixed Inductor

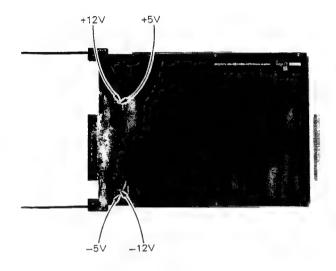
The following square type fixed inductor appears similar to variable inductors, but those mounted on the printed circuit boards and those in stock as the repair parts are all set at the factory and must not be re-adjusted in the field.



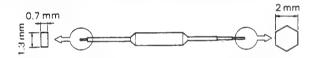
3-4. SERVICE TOOLS

Extension Board: EB-9A Sony Part No. A-6252-050-A Used for checking and repairing the plug-in boards. BVT-810P has 1 p.c.s. as an accessory.

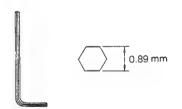
If the EB-9A extension board is inserted into the BVT-810P, it is possible to check that $+12\,V$, $-12\,V$, $+5\,V$ and $-5\,V$ dc is being supplied by checking the illumination of the red LEDs on the extension board.



Adjusting Screwdriver Sony Part No. 7-700-733-01

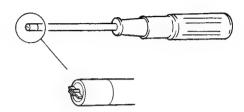


Hexagonal Wrench Sony Part No. 7-700-736-06



"TOTSU" Screwdriver

3 mm dia. Sony Part No. 7-721-050-63 4 mm dia. Sony Part No. 7-721-050-64

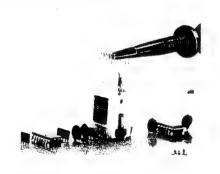


IC Test Clip

Type TC-16 Sony Part No. J-6041-770-A Type TC-20 Sony Part No. J-6041-780-A Manufacturer;

AP PRODUCTS INCORPORATED Box 697 72 Corwin Drive Painesville, Ohio 44077, USA TEL; 216-354-2101

When connecting the test probe to the terminal of DIP integrated circuit, these clips are convenient. Type TC-16 is for DIP 14-pin or 16-pin IC and Type TC-20 is for 18-pin or 20-pin IC.



3-5. SPARE PARTS

- (1) Safety Related Components Warning. Components identified by shading and marked with ♠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with the Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.
- (2) Replacement Parts supplied from the Sony Parts Center will sometimes have a different shape from the original parts. This is due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

 This manual's exploded views and electrical spare parts list indicate the part numbers of "the standardized genuine parts at the present". Regarding engineering part changes in out engineering department, refer to Sony service bulletins and service manual supplements.
- (3) The parts marked with "s" in the SP column of the exploded views and electrical spare parts list are normally stocked for replacement purposes. The parts marked with "o" in the SP column are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.



SECTION 4 THEORY OF OPERATION

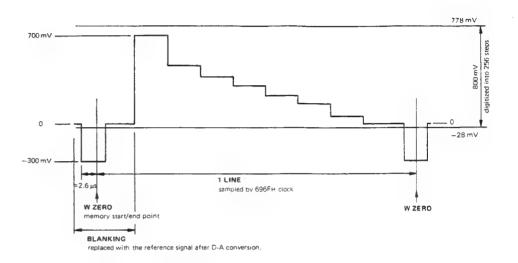
4-1. OUTLINE OF BVT-810P

BVT-810P is a TBC designed for SC low frequency conver- The off tape video signal is inputted to BVT-810P by the sion type PAL VTR such as U-matic. It has a wide correction range of 29Hp-p, applicable to DT play and BIDIREX play also. The VTR must be able to V-lock to an external signal while playing back.

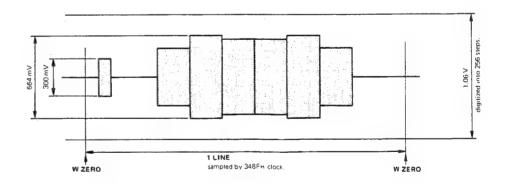
two formats. One is a composite signal and the other is Y and C signals that are separated in the VTR. The SC frequency of the C signal is down converted in the U-matic H VTR. The process of the composite signal in the TBC is named COMP mode and the other is called DUB mode.

The off tape video signal is digitized into 256 steps (8 bits). The sampling frequency is 696FH for Y signal and 348FH for C signal.

Y signal (100.0.75.0 color bars)



C signal (100.0.75.0 color bars)



In the COMP mode, the Y signal of the off tape composite signal has a time-base error but the time-base error of the C signal is cancelled in the VTR when the SC is reconverted into PAL frequency. The composite signal is separated into Y and C signals in the TBC.

In the DUB mode, the Y and C signals which have the same time-base error are inputted to the TBC and the SC frequency of the C signal is down converted in the U-matic H VTR. Once the C signal is reconverted into PAL frequency in the TBC, the time-base error is cancelled and the C signal becomes equivalent to the C signal in the COMP mode.

Next, the C signal is frequency-converted into 1.36 MHz and given the same time-base error as that of the Y signal by the carrier that is formed from the horizontal sync signal.

The Y signal is sent to Y A-D converter and the 1.36 MHz C signal is sent to C A-D converter.

The Y signal is sampled by the 696FH clock (Y WRITE CLOCK) formed from the horizontal sync signal of the Y signal and converted into 8-bit binary code (256 steps). The digitized data are written into Y 32-line memory.

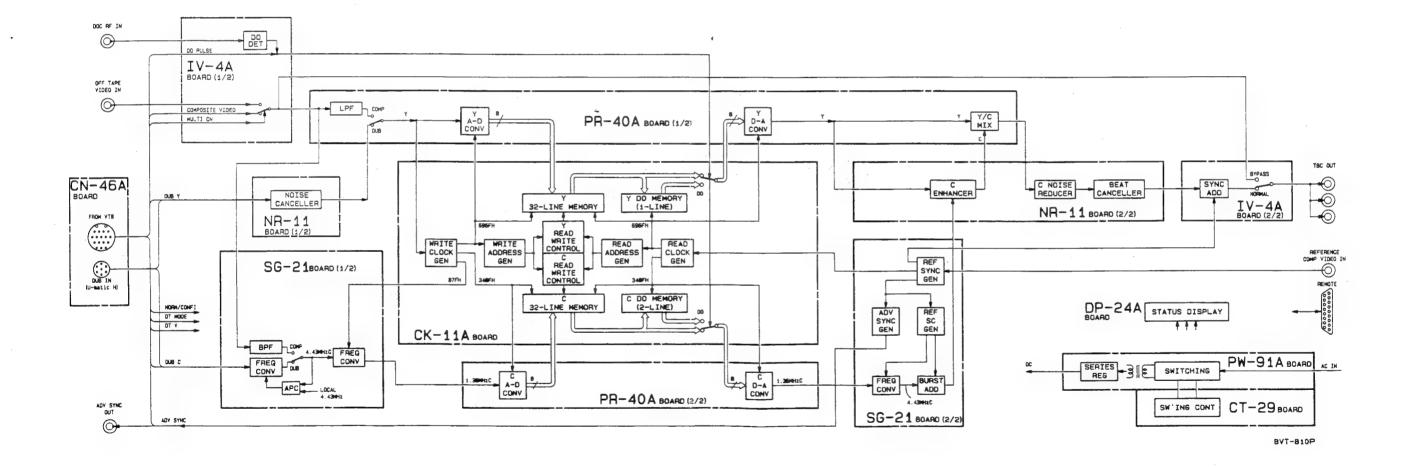
The 1.36 MHz C signal is sampled by the 348FH clock (C WRITE CLOCK) and converted into 8-bit binary code. The digital C signal is written into C 32-line memory.

The written data are then read out by READ CLOCK (Y: 696FH, C: 348FH) made from a reference signal which has no time-base error. They are sent to DOC (Drop-Out Compensator) and D-A converter.

Y DOC consists of a 1-line memory and C DOC consists of a 2-line memory. Normally the D-A converter input is the data read out from 32-line memory, but when a dropout occurs in the VTR, the affected part is replaced with the data read out from the DOC memory. Y DOC replaces the Y signal with the signal before 1H and C DOC replaces the C signal with the one before 2H.

The Y and C signals read out from each 32-line memory or DOC memory are reconverted into analog Y and 1.36 MHz C signals.

After D-A conversion, the frequency of the C signal is reconverted into 4.43 MHz by the carrier formed from the reference signal. A burst signal is added to the C signal and then the C signal is mixed with the Y signal. A sync signal is added to the mixed Y & C signal and the PAL composite signal is sent out as an output signal.



SECTION 5 GENERAL INFORMATION FOR ALIGNMENT

5-1. INDEX OF ADJUSTMENT COMPONENTS

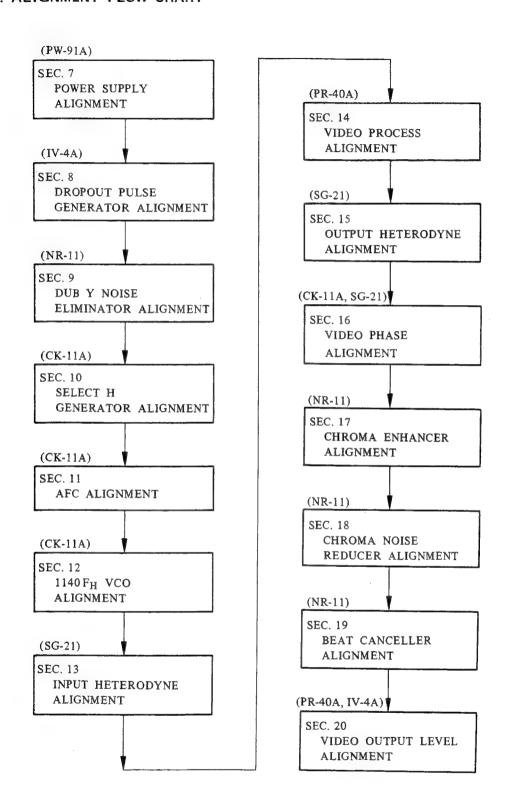
\$500; Burst ON/OFF Switch 2-8-3, 6-3

SG-21 Board	Section		Section	PR-40A Board	Section		Section
	er Plug		15-6	RV1; INPUT L	EVEL Control		1-2-1, 2-8-2,
	er Plug						6-3, 13-1, 15-
,			15-6	RV2; CHROM.	A Level Control .		1-2-1, 2-8-3,
LV200			15-9				6-3
	HASE Control			RV3; BLACK	LEVEL Control .		1-2-1, 2-8-3,
			6-3				6-3
RV2; SY	STEM SC PHASE Con	ntrol	1-2-1, 2-8-3,	RV4; VIDEO I	Level Control		1-2-1, 2-8-3,
			6-3				6-3
RV3; SY	STEM H PHASE Con	trol	1-2-1, 2-8-3,	RV5; Y/C DEI	LAY Control		1-2-1, 2-8-3,
			6-3				6-3
RV4; BU	RST/CHROMA Cont	rol	1-2-1, 2-8-3,	RV101	. 14-3	RV110	.14-3
			6-3	RV102	. 14-2	RV501	.14-12
RV5; DG	Compensation Contr	rol	1-2-1, 2-8-3,	RV104	. 14-1	RV503	20-1
			6-3	RV105	. 14-5	RV504	14-10
RV6			15-6	RV106	. 14-6	RV505	14-9
RV7			15-6	RV107	. 14-7	RV506	14-11
RV8; Fro	nt Porch Width Cont	rol	2-8-3, 6-3,	RV108	. 14-4	RV508	
			15-8	RV109		RV509	
RV9; Lir	e Blanking Width Co	ntrol	2-8-3, 6-3,	S1; COMP/DU	B Select Switch.		1-2-1, 2-8-2,
			15-8				6-3
RV200.	15-13	RV208		S2; CHROMA	Level PRESET Sw	ritch	
RV201.	15-11	RV209					6-3
RV202.	15-7	RV210		S3; BLACK L	EVEL PRESET Sw	ritch	
RV203.	13-4, 20-1	RV500					6-3
	15-10	RV501		S4; VIDEO Le	evel PRESET Switch	h	
	13-3	RV502					6-3
	15-9	RV503		S5; Y/C DELA	AY PRESET Switch	n	
	15-12	RV504		06 T 06 T (D	THOSE GILL CO.	da ad.	6-3
RV506;	Burst Width Adjustme	ent Control			EMOTE Select Sw		
			15-5	SIUI; DOB M	ode Release Switch	1	2-8-2, 6-3
				OV 114 Deced	Santian		Section
				CK-11A Board	Section	LV2	
S1; BUR	ST/CHROMA PRESE	El Switch	6-3	LV1	hase Control		
66 D 177	COLOR ATIMO CAL	a October	* -	KVI; VIGEO F	nase Condot		16- 1
S2; B/W,	COLOR, AUTO Sele	ect Switch	6-3	RV2	10.1	RV4	
aa nan	4 CC (NIODNA 4 T C-1	Contach		RV3		RV5	
S3; BYP.	ASS/NORMAL Select	Switch	6-3		Y Switch		-
54. T	1/Damasa Calast Carit	a.b.	• •	/	HIFT/INV Switch		
	l/Remote Select Swit anking Line Select Sw			52, Chroma Si	IIII I/III V DWILCII		40-0,0-0
	anking Line Select Sw anking Line Select Sw						
	anking Line Select Sw						
5200; Cr	roma O/E Inertia Sel	CCI DWILLII	4-0-4, 0-3				

NR-11 Board	Section		Section	IV-4A Board	Section		Section
CV201	18-2	CV202	18-6	RV1	20-2	RV4	8-1
J1		J204	18-3, 18-4	RV2	20-3	RV5	20-4
J2	9-2	J205	18-3, 18-4	RV3	8-3	RV6	8-2
J3	9-2	J206	6-3				
J103	17-5, 17-7	J207	19-2	PW-91A Board			
LV101				RV71	7-1-3	RV111	7-1-3
RV1		RV204	18-10	RV72	7-1-2	RV131	7-1-3
RV2	9-2	RV205	18-3	RV91	7-1-3	RV132	7-1-2
RV3	9-3	RV206	18-8	RV92	7-1-2	RV151	7-1-2
RV4	9-4	RV207	18-8				
RV101	17-3	RV208	18-4	CT-29 Board			
RV102	17-4	RV209	18-11	RV201	7-2		
RV103	17-5	RV210	18-11	RV202	7-1-1		
RV104	17-6	RV211	18-5				
RV105		RV212	18-7	Connector Panel			
RV106	17-8	RV213	18-7	SW1; 75-ohm C	N/OFF Switch.		1-2-2, 2-8-5,
RV107	17-1	RV214	18-1				6-3
RV108	17-1, 17-2	RV215	18-3	SW3; COMP/NO	N COMP Switch		1-2-2, 2-8-5,
RV201	18-9	RV216	19-2				6-3
RV202	19-2	RV217	19-1				
RV203	. 18-12			•			
\$101; C-ENH.	ON/OFF Switch		1-2-1, 2-8-3, 6-3				
S201; CNR ON	N/OFF Switch		1-2-1, 2-8-3, 6-3				
S202; BEAT C	ANCELLER ON	OFF Switch	2-8-3, 6-3				



5-2. ALIGNMENT FLOW CHART



5-3. BOARD REPLACEMENT AND ADJUSTMENT

When the following circuit board has been replaced, the relative adjustments must be performed.

Board Required Adjustment

- SG-21 (1) 15-5. Burst Width & Level Adjustment
 - (2) 16-1. Video Phase Adjustment
 - (3) 16-2. Y/C Delay Adjustment
 - (4) 20-1. Output Y Level & Chroma Level Adjustment
- PR-40A (1) 14-1. DUB Y Pedestal Adjustment
 - (2) 14-2. VIDEO Level Adjustment
 - (3) 14-3. DUB Y Edge Enhancer Adjustment
 - (4) 16-2, Y/C Delay Adjustment
 - (5) 20-1. Output Y Level & Chroma Level Adjustment
- CK-11A (1) 16-1. Video Phase Adjustment
 - (2) 16-1. Y/C Delay Adjustment
- NR-11 (1) 14-1. DUB Y Pedestal Adjusment
 - (2) 14-2. Video Level Adjustment
 - (3) 14-3. DUB Y Edge Enhancer Adjustment
- IV-4A (1) 20-3. Normal Video Output Level Adjustment
 - (2) 20-4. Video Output Sync Level Adjustment



SECTION 6 PREPARATION FOR ALIGNMENT

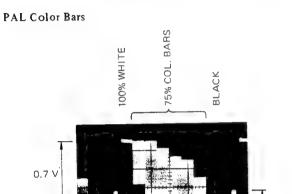
6-1. TEST EQUIPMENT

(1) PAL Test Signal Generator

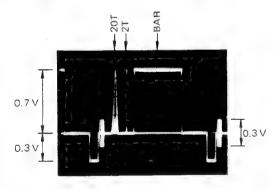
TEKTRONIX Type 1411 or Equivalent

Test Signal Module SYNC GENERATOR SPG12 COLOR BAR GEN. TSG11 PULSE & BAR GEN. TSG15

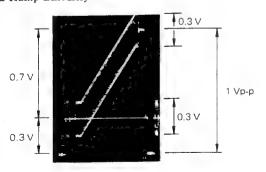
LINEARITY TSG13 SWEEP GEN. TSG16



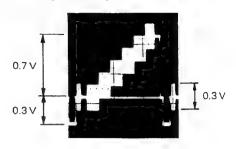
PAL Pulse & Bar



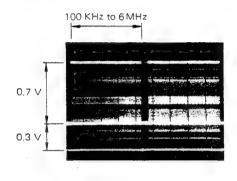
PAL Ramp Linearity



PAL 5 Steps Linearity



PAL Sweep



(2) Oscilloscope and Probe Adapter

Oscilloscope

Band Width: 200 MHz TEKTRONIX 475 or Equivalent

Probe Adapter

Probe tip for grounding

TEKTRONIX Part No. 013-0085-00

(3) Waveform Monitor

TEKTRONIX 1485C or Equivalent Used for the following alignments. Section 16. Video Phase Alignment Section 20. Video Output Level Alignment

(4) Vectorscope

TEKTRONIX 521A or Equivalent Used for the following alignments. Section 15. Output Heterodyne Alignment

(5) Digital DC Voltmeter

Effective digits; more than 4½ digits Accuracy; 0.02% ± 1 count or less Used for the following alignments. Section 7. Power Supply Alignment Section 14. Video Process Alignment

(6) DC Current Meter

10A range

Used for Section 7. Power Supply Alignment

(7) VTR

SONY BVU-800P series

Used for the following alignments.

Section 11, AFC Alignment

Section 12. 1140FH VCO Alignment

Section 14. Video Process Alignment

Section 15. Output Heterodyne Alignment

Section 17. Chroma Enhancer Alignment

Section 18, Chroma Noise Reducer Alignment

(8) Alignment Tape

RR5-2SB PAL (Parts No. 8-960-020-62)

(9) Standard Signal Generator

Sine wave, 5 MHz

Used for Section 8. Dropout Pulse Generator Alignment

(10) Video Attenuator

Used for Section 9. DUB Y Noise Eliminator Alignment

(11) EB-9A Extension Board

SONY Part No. A-6252-050-A
One EB-9A is supplied with BVT-810P.

(12) IC Test Clip

Type TC-16 Sony Part No. J-6041-770-A

Type TC-20 Sony Part No. J-6041-780-A

Manufacturer;

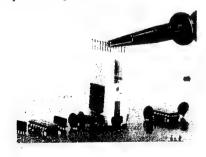
AP PRODUCTS INCORPORATED

Box 697 72 Corwin Drive

Painesville, Ohio 44077, USA

TEL; 216-354-2101

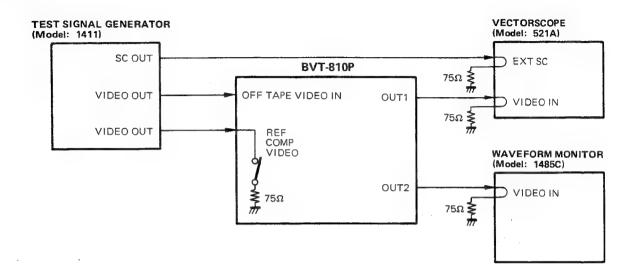
When connecting the test probe to the terminal of DIP integrated circuit, these clips are convenient. Type TC-16 is for DIP 14-pin or 16-pin IC and Type TC-20 is for 18-pin or 20-pin IC.



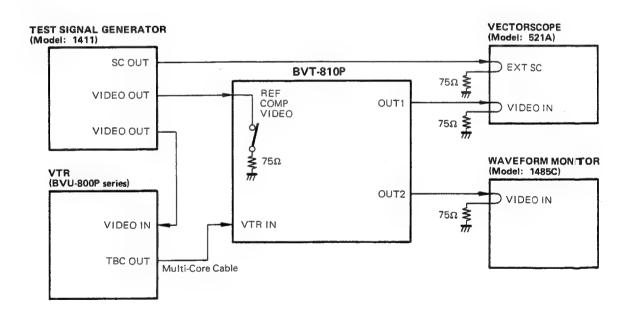


6-2. EQUIPMENT CONNECTION

Connection 1.

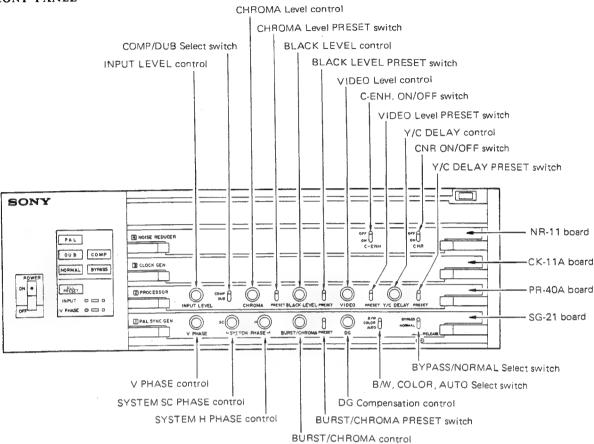


Connection 2.



6-3. INITIAL SETTING OF SWITCHES & CONTROLS

FRONT PANEL



SG-21 Board

S1, BURST/CHROMA PRESET Switch; **PRESET** S2, B/W, COLOR, AUTO Select Switch; **AUTO** NORMAL S3, BYPASS/NORMAL Select Switch; Local

S4, Local/Remote Select Switch;

All set to ON

V Blanking Line Select Switch;

S7 -

S200, Chroma O/E Inertia Select Switch; OFF OFF S500, Burst ON/OFF Switch;

RV1, V PHASE Control;

When using the VTR, adjust so that the green lamp on the V PHASE indicator light up. When not using the VTR, set to any position.

RV2, SYSTEM SC PHASE Control;

Any position

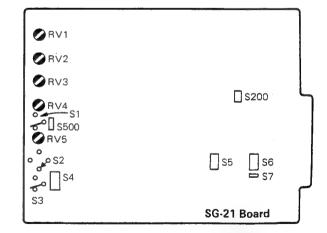
RV3, SYSTEM H PHASE Control; RV4, BURST/CHROMA Control;

Any position Any position

RV5, DG Compensation Control;

Midrange





"0" position

SHIFT

CK-11A Board

PR-40A Board

S1, COMP/DUB Select Switch; COMP S2, CHROMA Level PRESET Switch; **PRESET PRESET** S3, BLACK LEVEL PRESET Switch; S4, VIDEO Level PRESET Switch; **PRESET** S5, Y/C DELAY PRESET Switch; **PRESET** S6, LOCAL/REMOTE Select Switch; LOCAL ON S101, DUB Mode Release Switch;

RV1, INPUT LEVEL Control;

Adjust so that the green lamp on the INPUT indicator light up.

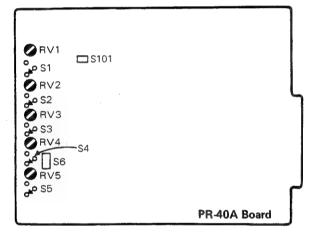
RV2, CHROMA Level Control;

Any position RV3, BLACK LEVEL Control; Any position RV4, VIDEO Level Control;

RV5, Y/C DELAY Control;

Any position

Any position



NR-11 Board

CK-11A Board

-- □ S1

□ \$2

S1, Y/C DELAY Switch;

S2, Chroma SHIFT/INV Switch;

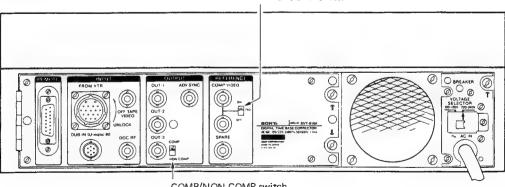
\$101, C-ENH. ON/OFF switch; ON ON \$201, CNR ON/OFF switch; S202, BEAT CANCELLER ON/OFF switch; OFF

\$202 \$101 م S201 مر NR-11 Board

REAR PANEL

ON SW1, 75Ω ON/OFF switch; COMP SW3, COMP/NON COMP switch;

75Ω ON/OFF switch



COMP/NON COMP switch



SECTION 7 POWER SUPPLY ALIGNMENT

CAUTION

If the output voltage of the regulated power supply is out of specifications, the BVT-810P may not operate properly. If necessary, perform the following adjustments.

7-1. POWER SUPPLY ADJUSTMENT WITHOUT LOAD

CAUTION

Remove the following circuit boards from the MB-13 board before performing each power supply adjustment.

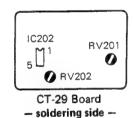
- 1) SG-21 Board (Remove the board from the MB-13 board.)
- 2) PR-40A Board (Remove the board from the MB-13 board.)
- 3) CK-11A Board (Remove the board from the MB-13 board.)
- 4) NR-11 Board (Remove the board from the MB-13 board.)
- 5) IV-4A Board (Remove the CN22 connector.)
- 6) DP-24A Board (Remove the CN6 connector on the MB-13 board.)

7-1-1. Switching Pulse Duty Adjustment without Load

Equipment; Digital DC Voltmeter

Adjustment

CT-29 Board IC202 pin 1 = +5.00±0.05 Vdc RV202

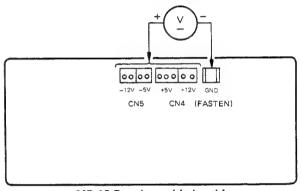


7-1-2. Voltage Adjustment without Load

Equipment; Digital DC Voltmeter

Caution

Insert the probe of the DC voltmeter into the terminal pin of the CN4 or CN5 connector and ground the GND fasten tab



MB-13 Board - soldering side -

Step 1. +5 V Adjustment

MB-13 Board: CN4 pin $4 = +5.00\pm0.05$ Vdc

PW-91A Board: RV72

Step 2. +12 V Adjustment

MB-13 Board: CN4 pin $2 = +12.0\pm0.1 \text{ Vdc}$

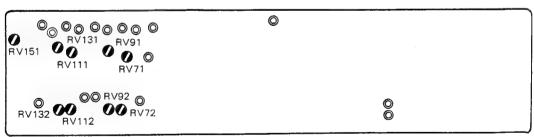
PW-91A Board: RV92

Step 3. -5 V Adjustment

MB-13 Board: CN5 pin $2 = -5.00\pm0.05$ Vdc

MB-13 Board: CN5 pin $4 = -12.0\pm0.1 \text{ Vdc}$

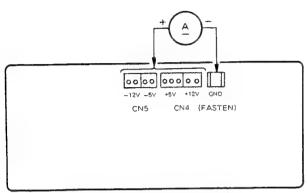
PW-91A Board: RV132



PW-91A Board - component side -

7-1-3. Short Current Adjustment without Load

Equipment; DC Current Meter



MB-13 Board - soldering side -

Step 1. +12 V Adjustment

MB-13 Board: CN4 pin 1 or $2 = 1.2 \pm 0.1$ A

PW-91A Board: RV91 Step 2. +5 V Adjustment

MB-13 Board: CN4 pin 3, 4, or $5 = 2.0\pm0.2A$

PW-91A Board: **⊘**RV71 Step 3. −5 V Adjustment

MB-13 Board: CN5 pin 1 or $2 = 0.80 \pm 0.08$ A

MB-13 Board: CN5 pin 5 or $6 = 0.60 \pm 0.06$ A

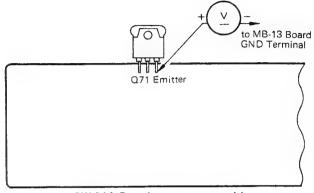
PW-91A Board: RV131

CAUTION

Connect each circuit board to the MB-13 board after performing the above power supply adjustment.

7-2. REGULATOR OUTPUT VOLTAGE ADJUSTMENT WITH LOAD

Equipment; Digital DC Voltmeter



PW-91A Board - component side -

Adjustment

PW-91A Board: Q71 emitter = +6.00±0.05 Vdc

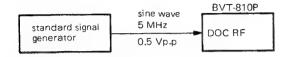
CT-29 Board: RV201

101011

SECTION 8 DROPOUT PULSE GENERATOR ALIGNMENT

8-1. RF AGC LEVEL ADJUSTMENT

Connection;



Equipment;

Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3

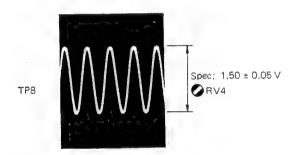
Step 1. Setting of Signal Generator

Frequency; 5 MHz Amplitude; 0.5 Vp-p

(Measured at TP7 on the IV-4A board.)

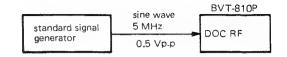
Step 2. Adjustment

IV-4A Board



8-2. DOC KILLER ADJUSTMENT

Connection;



Equipment;

Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3

Step 1. Setting of Signal Generator

Frequency; 5 MHz Amplitude; 0.5 Vp-p

(Measured at TP7 on the IV-4A board.)

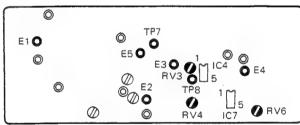
Step 2. Adjustment

IV-4A Board

Spec; IC7 pin 1 < 0 V

IC7 pin 6 = Voltage at IC7 pin 1 x 1.8 V dc

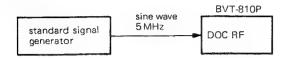
⊘RV6



IV-4A Board - component side -

8-3. DO LEVEL SENSITIVITY ADJUSTMENT

Connection;



Equipment;

Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3

Step 1. Setting of Signal Generator

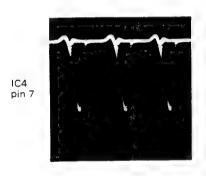
Frequency; 5 MHz Amplitude; 0.5 Vp-p

(Measured at TP8 on the IV-4A board.)

Step 2. Adjustment

Turn RV3 on the IV-4A board fully clockwise.

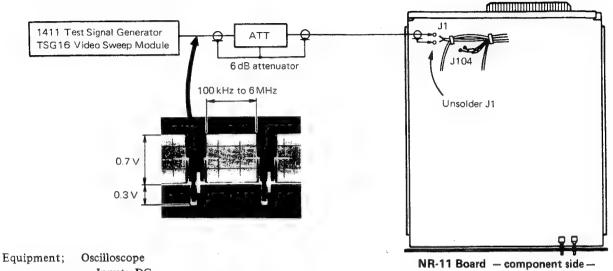
IC4 pin 7 shows HIGH level (approx. +4 Vdc). Next, turning RV3 counterclockwise slowly, the negative pulse appears as shown below. Stop RV3 immediately after this pulse appears.



SECTION 9 DUB Y NOISE ELIMINATOR ALIGNMENT

9-1. DUB Y INPUT GAIN ADJUSTMENT

Connection; Composite sweep signal



Input; DC

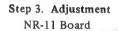
Trigger; HD (test signal generator)

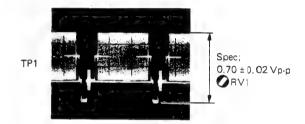
Switches & Controls Setting;

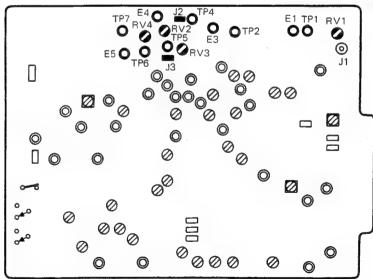
Same as Section 6-3

Step 1. Unsolder the J1 jumper leads from NR-11 board.

Step 2. Supply a sweep signal through 6 dB attenuator to J1 lands.







NR-11 Board - component side -

9-2. INVERTED Y GAIN ADJUSTMENT

Connection; Same as Section 9-1

Equipment; Oscilloscope

Inpust; AC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Step 1. Set the attenuator to 36 dB.

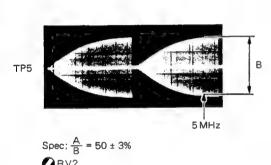
Step 2. Remove the J2 and J3 short sockets from NR-11 board.

Step 3. Short between TP2 and E3/NR-11 board with a shorting clip.

Step 4. Adjustment

NR-11 Board





Step 5. Remove the shorting clip from TP2 and E3.

Step 6. Plug the J2 and J3 short sockets to NR-11 board.

NOTE

Extract the CK-11A board to get a clear waveform in the adjustment, Sec. 9-2 through Sec. 9-4.

9-3. Y SIGNAL NULL ADJUSTMENT

Connection; Same as Section 9-1 Equipment; Oscilloscope

Input; AC

Trigger; HD (test signal generator)

Switches & Controls Setting;

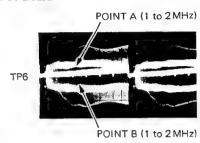
Same as Section 6-3

Step 1. Set the attenuator to 6 dB.

Step 2. Short between TP2 and E3/NR-11 board with a shorting clip.

Step 3. Adjustment

NR-11 Board





Spec; Touch point A to B.

♠ RV3

Step 4. Remove the shorting clip from TP2 and E3.

9-4. NOISE CANCEL LEVEL ADJUSTMENT

Connection; Same as Section 9-1

Equipment; Oscilloscope

Input; AC

Trigger; HD (test signal generator)

Switches & Controls Setting;

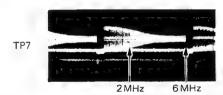
Same as Section 6-3

Step 1. Set the attenuator to 36 dB.

Step 2. Short between TP2 and E3/NR-11 board with a shorting clip.

Step 3. Adjustment

NR-11 Board



Spec; Make an isosceles triangle between 2 MHz

and 6 MHz.

♠ RV4

Step 4. Remove the shorting clip from TP2 and E3.

SECTION 10 SELECT H GENERATOR ALIGNMENT

10-1. SELECT H GENERATOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

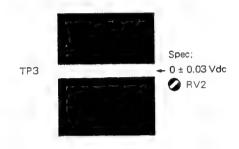
Same as Section 6-3

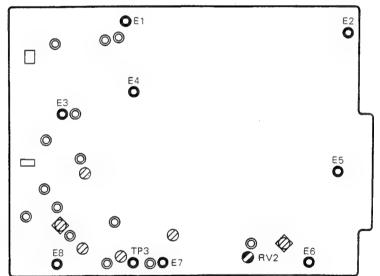
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

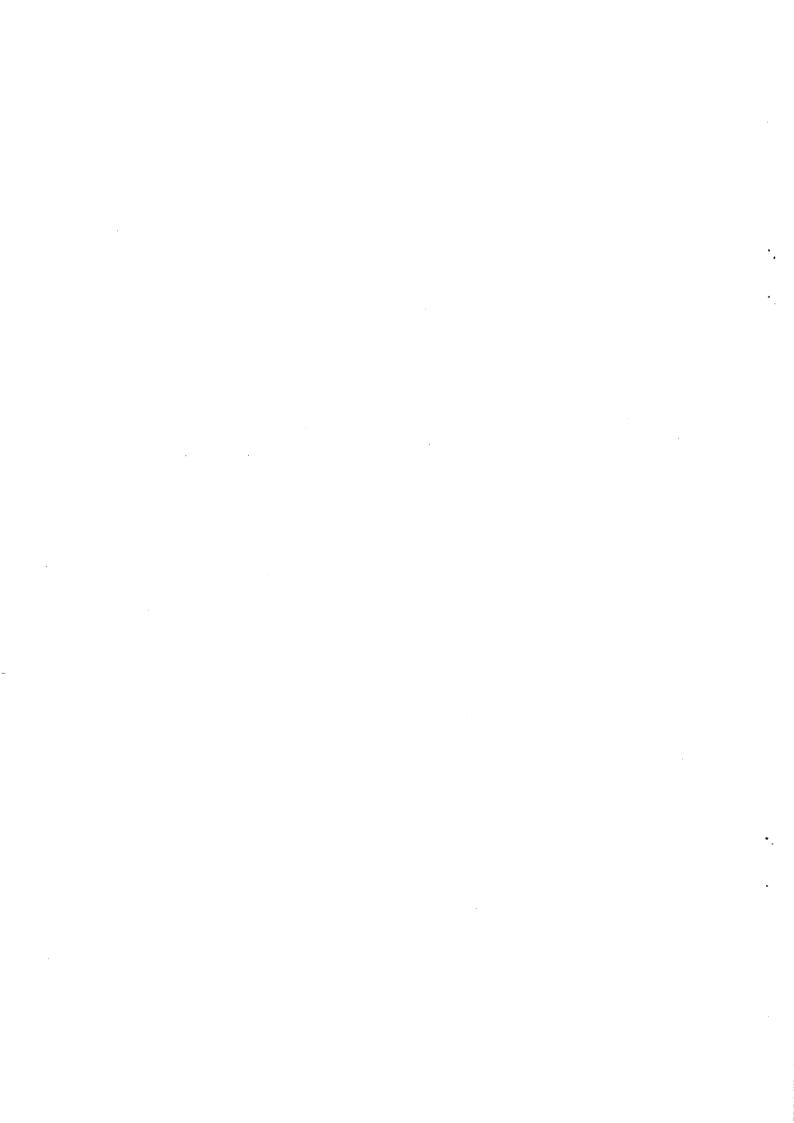
Adjustment

CK-11A Board





CK-11A Board -component side -



SECTION 11 AFC ALIGNMENT

11-1. SAWTOOTH WAVE SLOPE ADJUSTMENT 11-2. NARROW RANGE VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

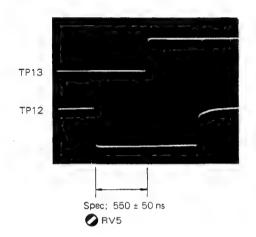
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

CK-11A Board



Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

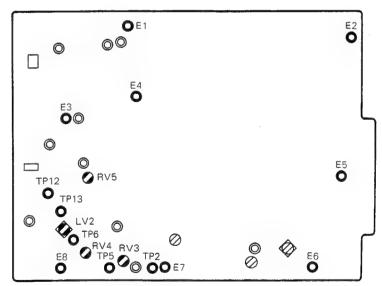
Step 1. Adjustment

CK-11A Board

Spec; TP6 = $-4.0 \pm 0.2 \text{ Vdc}$

⊘ LV2

Step 2. Perform Sec. 11-1. Sawtooth Wave Slope Adjustment.



CK-11A Board -component side -



11-3. WIDE RANGE VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

 $PLAY \rightarrow REW$ VTR Mode; Oscilloscope Equipment;

Input; DC

Switches & Controls setting;

Same as Section 6-3

Input Signal (VTR IN);

PAL Color Bars

Step 1. Short between TP2 and E7 with a shorting clip.

Step 2. Offset Adjustment (PLAY mode)

Set the VTR to PLAY mode.

CK-11A Board

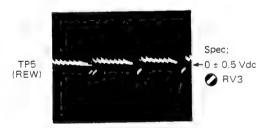


Step 3. Remove the shorting clip from TP2 and GND.

Step 4. Gain Adjustment (REW mode)

Set the VTR to the REW mode and adjust RV3 to obtain the following value.

CK-11A Board



SECTION 12 1140F_H VCO ALIGNMENT

12-1. 1140FH VCO ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3 except the following. PR-40A Board S1, COMP/DUB Switch; DUB

Input Signal (VTR IN);

PAL Color Bars

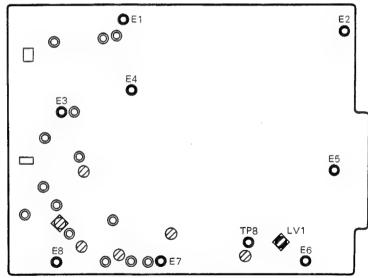
Adjustment

Set the VTR to EE mode.

CK-11A Board

Spec; TP8 = $-0.5 \pm 0.2 \,\text{Vdc}$

LV1



CK-11A Board - component side -



SECTION 13 INPUT HETERODYNE ALIGNMENT

13-1, INPUT LEVEL CALIBRATION

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

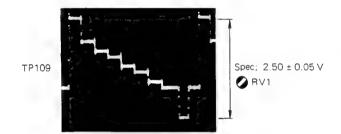
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment PR-40A Board



13-2. BURST DETECTOR ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

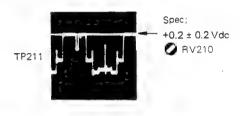
Same as Section 6-3

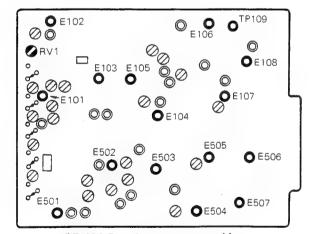
Input Signal (OFF TAPE VIDEO IN):

PAL Color Bars

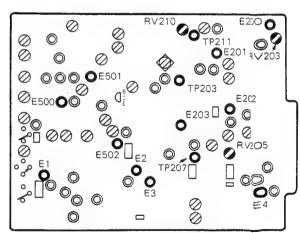
Adjustment

SG-21 Board





PR-40A Board - component side -



SG-21 Board - component side -

13-3. APC ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

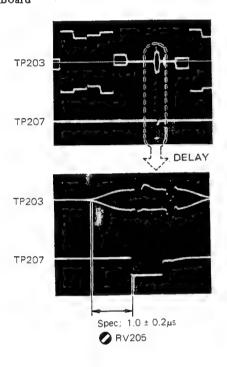
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment SG-21 Board



13-4. WRITE CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

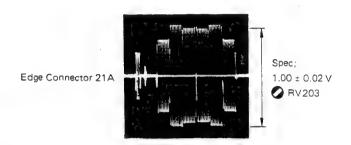
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment SG-21 Board



SECTION 14 VIDEO PROCESS ALIGNMENT

14-1. DUB Y PEDESTAL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Oscilloscope Equipment;

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3 except the following.

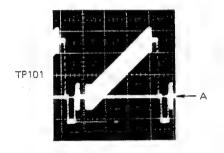
PR-40A Board S101,

DUB Mode Release Switch; OFF

Input Signal (VTR IN);

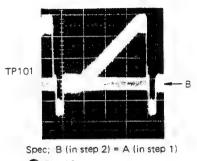
Lamp linearity 1 Vp-p

Step 1. Memorize "A" level shown below. PR-40A Board

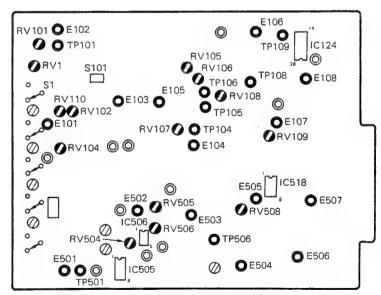


Step 2. Set the PR-40A board S1, COMP/DUB switch to

PR-40A Board



O RV102



PR-40A Board - component side -

14-2. VIDEO LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3 except the following.

PR-40A Board S101,

DUB Mode Release Switch; OFF

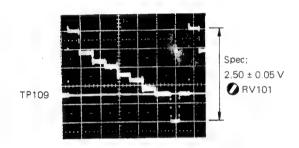
Input Signal (VTR IN);

PAL Color Bars

Step 1. Match the dot mark on the INPUT LEVEL control (PR-40A board RV1) to the center mark on the BVT-810P front panel.

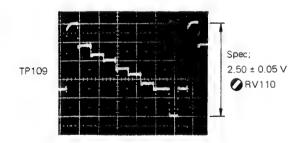
Step 2. Video Level Adjustment

PR-40A Board



Step 3. Set the PR-40A Board S1, COMP/DUB switch to

Step 4. DUB-Y Level Adjustment PR-40A Board



14-3. DUB Y EDGE ENHANCER ADJUST-MENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3 except the following.

PR-40A Board S101,

DUB Mode Release Switch; OFF

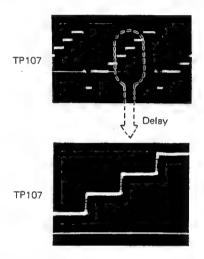
Input Signal (VTR IN);

5 steps linearity

Step 1. Set the PR-40A board S1, COMP/DUB switch to DUB.

Step 2. Adjustment

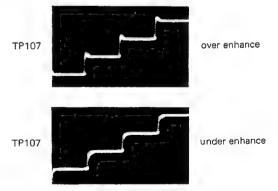
PR-40A Board



Spec; Adjust RV104 so that the waveform of TP107 become same form in the COMPOSITE mode.

Note

Following waveform is not satisfied the specification.



14-4, A/D CONVERTER REFERENCE **VOLTAGE ADJUSTMENT**

Equipment; Digital DC Voltmeter

Switches & Controls Setting;

Same as Section 6-3

Adjustment

PR-40A Board

Spec; IC124 pin 28 = -1.98 to -2.00 Vdc

⊘RV108

14-5. INPUT LEVEL INDICATOR **CALIBRATION**

Equipment; Digital DC Voltmeter

Switches & Controls Setting;

Same as Section 6-3.

Adjustment

PR-40A Board

Spec; Voltage between TP105 (+) and TP106 (ground)

 $= 112 \pm 5 \text{ mV}$

RV105

14-6. Y-PEDESTAL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

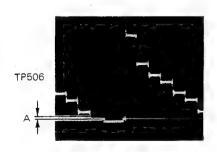
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

PR-40A Board



14-7. WRITE CHROMA LEVEL & WRITE CHROMA PEDESTAL LEVEL **ADJUSTMENT**

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

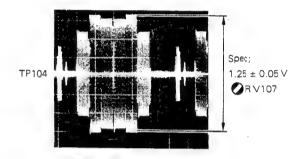
Switches & Controls Setting;

Same as Section 6-3

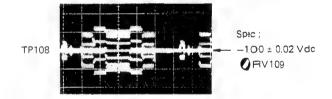
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Write Chroma Level Adjustment PR-40A Board



Step 2. Pedestal Level Adjustment PR-40A Board



14-8. Y/C DELAY CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3 except the following. PR-40A Board S1, COMP/DUB Switch; DUB

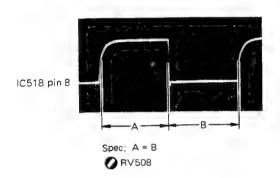
Input Signal (VTR IN);

PAL Color Bars

Step 1. Make sure that the following RVs are in the midrange.

SG-21 board ORV208, ORV209

Step 2. Adjustment PR-40A Board



14-9. D/A CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

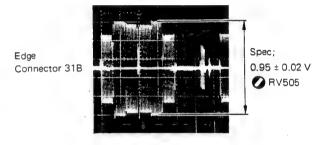
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

PR-40A Board



14-10. BLACK LEVEL CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1

Equipment;

Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

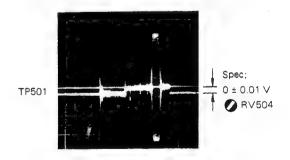
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

PR-40A Board



14-11. DG COMPENSATION CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. The dot mark on the DG compensation control (SG-21 board RV5) coincides with the center mark on the BVT-810P front panel.

Step 2. Adjustment PR-40A Board



14-12. CHROMA LEVEL CONTROL CALIBRATION

Connection; Same as Section 6-2, Connection 1

Equipment;

Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

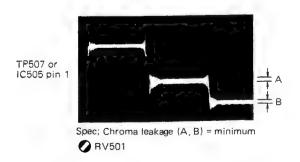
Same as Section 6-3

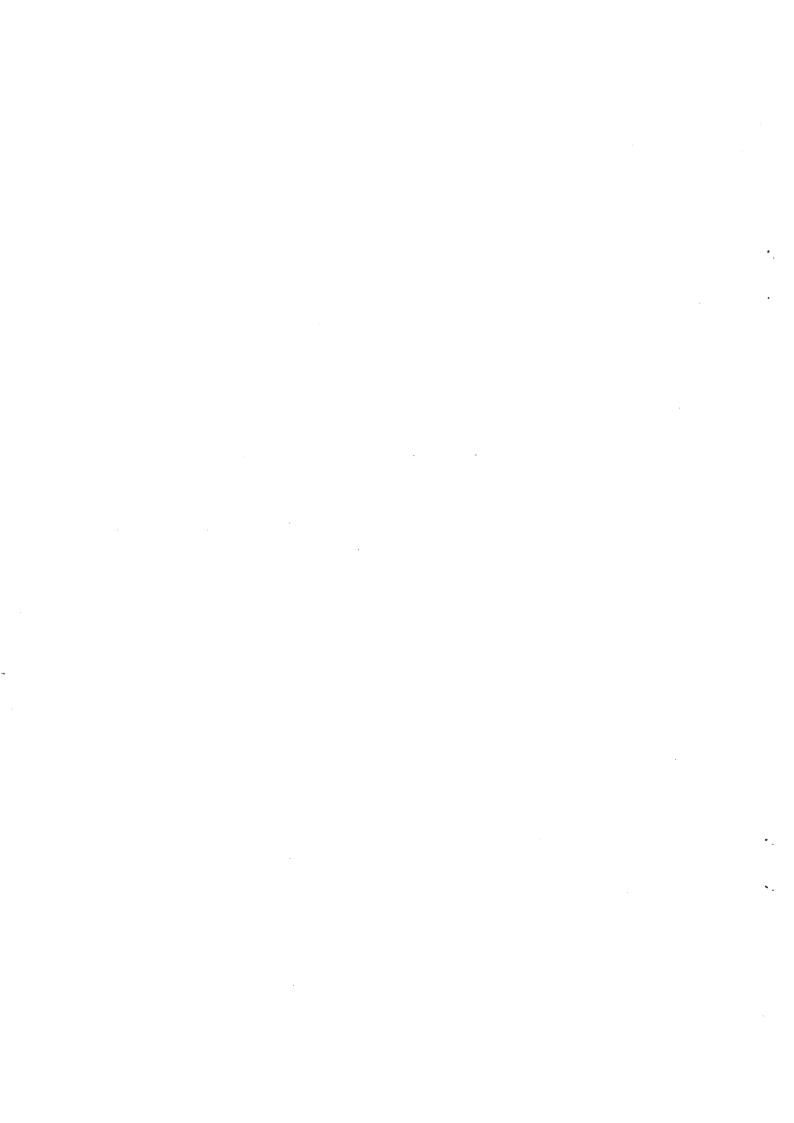
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

PR-40A Board





SECTION 15 OUTPUT HETERODYNE ALIGNMENT

15-1. D/A OUTPUT LEVEL CALIBRATION

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

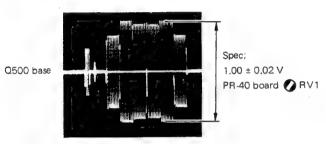
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment SG-21 Board



RV504 7 RV200 0 **O** RV201 0 RV500 O TP203 RV207 0 RV206 ORV204 0 TP207 @ @ E4**O** 🔘 **O**RV8 꾭 ØRV9

SG-21 Board - component side -

15-2. CARRIER NULL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3

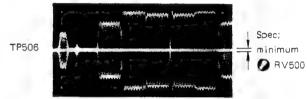
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Check that the SG-21 board J3 Normal/Test Select short socket has been set.

Step 2. Adjustment

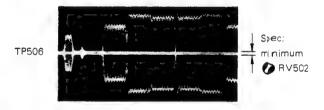
SG-21 Board



Step 3. Remove the J3 Normal/Test Select short socket from SG-21 baord.

Step 4. Adjustment

SG-21 Board



Step 5. Plug the J3 Normal/Test Select short socket to SG-21 board.

15-3. CHROMA LEVEL ADJUSTMENT

Same as Section 6-2, Connection 1 Connection;

Equipment;

Oscilloscope Input; DC

Switches & Controls Setting;

Same as Section 6-3

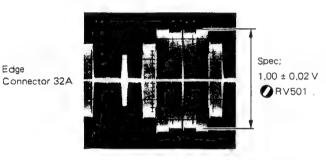
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Check that the SG-21 board J3 Normal/Test Select short socket has been set.

Step 2. Adjustment

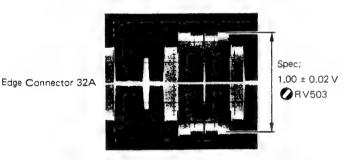
SG-21 Board



Step 3. Remove the J3 Normal/Test Select short socket to SG-21 board.

Step 4. Adjustment

SG-21 Board



Step 5. Plug the J3 Normal/Test Select short socket to SG-21 board.

15-4. BURST OFFSET ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment;

Oscilloscope Input; DC

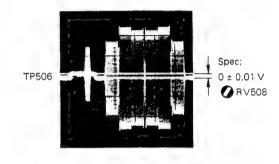
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment SG-67 Board



15-5. BURST WIDTH & LEVEL ADJUST-

Connection; Same as Section 6-2, Connection 1

Equipment;

Oscilloscope

Input; DC

Switches & Controls Setting; Same as Section 6-3

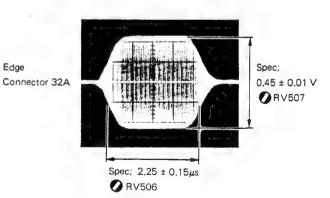
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

Edge

SG-21 Board



15-6. BURST/CHROMA PHASE ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Vectorscope Switches & Controls Setting;

Same as Section 6-3 except the following.

PR-40A Board S101,

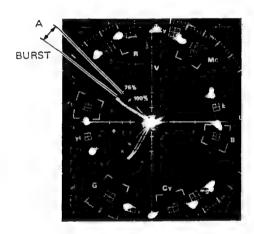
DUB Mode Release Switch; OFF

Input Signal (VTR IN);

PAL Color Bars

Step 1. Adjust J2/SG-21 board and vectorscope so that the burst coincides with the burst position on the vectorscope.

OUT-1 (BVT-810P)

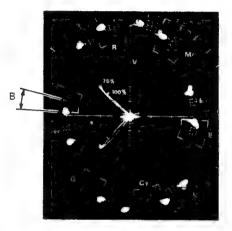


Spec; A = 0 ± 1° SG-21 board J2

VECTORSCOPE PHASE control

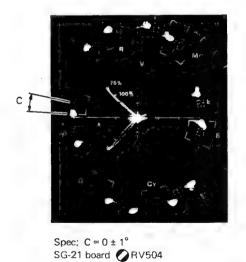
Step 2. Set the PR-40A board S1, COMP/DUB switch to COMP or DUB.

OUT-1 (BVT-810P)



Step 3. Set the PR-40A board S1, COMP/DUB switch to COMP and remove the J3 short socket from SG-21 board.

Step 4. Adjustment OUT-1 (BVT-810P)



Step 5. Plug the J3 short socket to SG-21 board.

15-7. ACC ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

VTR mode; DT Normal speed PB Equipment; Waveform Monitor Switches & Controls Setting;

Same as Section 6-3 except the following.

PR-40A board S1; COMP/DUB switch; DUB

Input Signal (VTR IN);

PAL Color Bars

Step 1. Set the waveform monitor as follows;

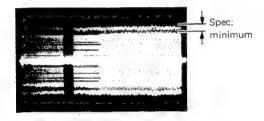
RESPONSE; 4.43 MHz BAND PASS

FILTER

MAGNIFIER; FIELD

Step 2. Adjustment

OUT-2 (BVT-810P)



15-8, BLANKING ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3

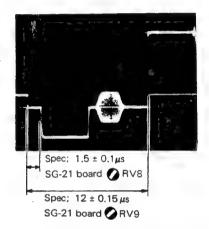
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Set the PR-40A board S3, BLACK LEVEL PRE-SET switch to manual and turn the BLACK LEVEL control fully clockwise.

Step 2. Adjustment

OUT-1 (BVT-810P)



Step 3. Set the PR-40A board S3 BLACK LEVEL PRE-SET switch to PRESET.

15-9. DUB APC ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3 except the following.

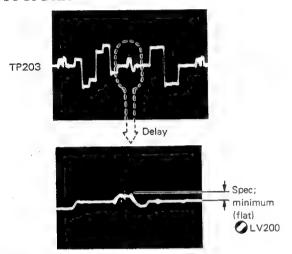
PR-40A Board S1, COMP/DUB Switch; DUB

Input Signal (VTR IN);

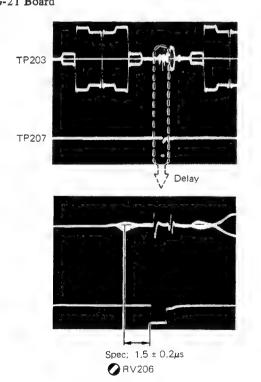
PAL Color Bars

Step 1. Adjustment (1)

SG-21 Board



Step 2. Adjusmtent (2) SG-21 Board



15-10. DUB BURST SAMPLING PULSE ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

Same as Section 6-3 except the following.

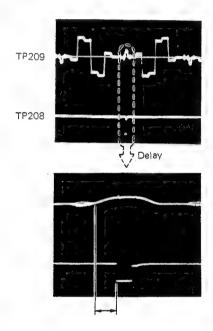
PR-40A Board S1, COMP/DUB Switch; DUB

Input Signal (VTR IN);

PAL Color Bars

Adjustment

SG-21 Board



15-11. DUB CARRIER NULL ADJUSTMENT

Same as Section 6-2, Connection 2 Connection;

Oscilloscope Equipment;

Input; DC

Switches & Controls Setting;

Same as Section 6-3 except the following.

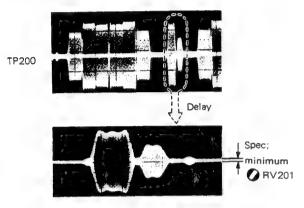
PR-40A Board S1, COMP/DUB Switch; DUB

Input Signal (VTR IN);

PAL Color Bars

Adjustment

SG-21 Baord



15-12. PILOT BLANKING ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting;

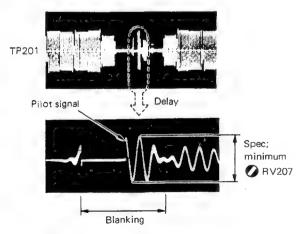
Same as Section 6-3 except the following. PR-40A Board S1, COMP/DUB Switch; DUB

Input Signal (VTR IN);

PAL Color Bars.

Adjustment

SG-21 Board



15-13. WRITE CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment; Oscilloscope

Input; DC

Switches & Controls Setting:

Same as Section 6-3 except the following. PR-40A Board S1, COMP/DUB Switch; DUB

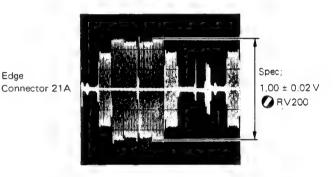
Input Signal (VTR IN);

PAL Color Bars

Adjustment

Edge

SG-21 Board





SECTION 16 VIDEO PHASE ALIGNMENT

16-1. VIDEO PHASE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment;

Waveform Monitor

SYNC; INT

Switches & Controls Setting;

Same as Section 6-3 except the following.

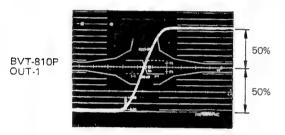
SG-21 Board S3,

BYPASS/NORMAL Select Switch; BYPASS

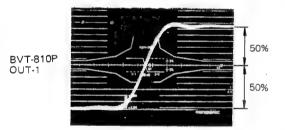
Input Signal (OFF TAPE VIDEO IN);

Pulse & Bar

Step 1. Set the rising edge of the bar signal at the graticule

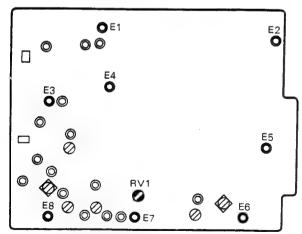


Step 2. Set the SG-21 board, BYPASS/NORMAL switch to NORMAL.



Spec; Rising edge of the bar coincides with the graticule center.

CK-11A board ORV1



CK-11A Board - component side -

16-2. Y/C DELAY ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

Equipment;

Waveform Monitor

Switches & Controls Setting;

Same as Section 6-3 except the following.

PR-40A Board S101,

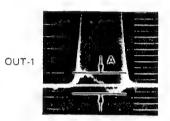
DUB Mode Release Switch; OFF

Input Signal (VTR IN);

Modulated 20T of Pulse & Bar

Adjustment

OUT-1 (BVT-810P)



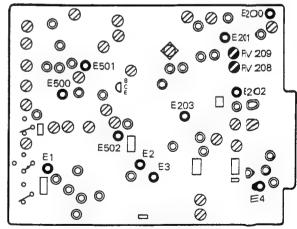
Spec; A = minimum

SG-21 board RV209

(PR-40A board S1, COMP/DUB switch; COMP)

SG-21 board ORV208

(PR-40A board S1, COMP/DUB switch; DUB)



SG-21 Board — component side —



SECTION 17 CHROMA ENHANCER ALIGNMENT

17-1. CHROMA ENHANCE DC BALANCE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Osci

Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

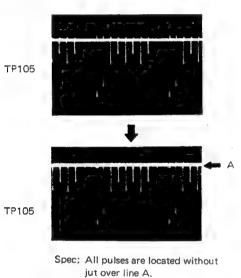
PAL Color Bars

Step 1. Turn RV108 on the NR-11 board fully counter-

clockwise.

Step 2. Adjustment

NR-11 Board



Note After the adjustment described above is completed, the Sec. 17-2 adjustment should be performed.

RV107

17-2. FULL WAVE DETECT SENSITIVITY ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

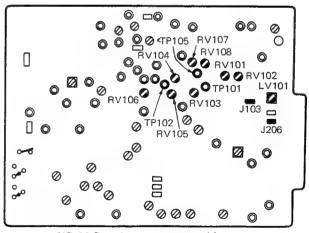
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment NR-11 Board





NR-11 Board - component side -

17-3. CHROMA FILTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Remove the J103 and J206 short sockets from NR-11 board.

Step 2. Turn RV102 on the NR-11 board to the mechanical center.

Step 3. Adjustment

NR-11 Board



Note After the adjustment described above is completed, the Sec. 17-4 adjustment should be performed.

17-4. CHROMA GAIN ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope Input; DC

Trigger; HD (test signal generator)

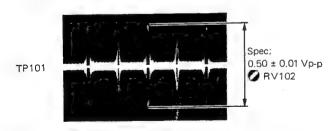
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Adjustment NR-11 Board



Step 2. Plug the J103 and J206 short sockets to NR-11 board.

17-5, CHROMA MIX OFFSET ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

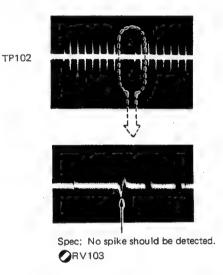
PAL Color Bars

Step 1. Remove the J103 and J206 short sockets from NR-11 board.

Step 2. Turn RV105 on the NR-11 board fully counterclockwise.

Step 3. Adjustment

NR-11 Board



Note After the adjustment described above is completed, the Sec. 17-6 and Sec. 17-7 adjustment should be performed.

17-6. Y MIX OFFSET ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

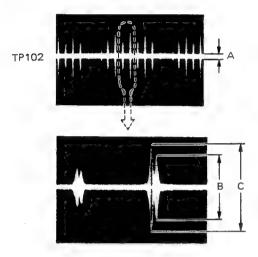
Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Turn RV104 on the NR-11 board fully clockwise.

Step 2. Adjustment

NR-11 Board



Spec; C-B < ±4 mVp-p Minimize A noise level.

Note After adjustment described above is completed, the Sec. 17-7 adjustment should be performed.

17-7. ENHANCE LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

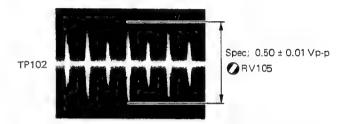
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN)

PAL Color bars

Step 1. Adjustment

NR-11 Board



Step 2. Plug the J103 and J206 short sockets to NR-11 board.

17-8. CHROMA PHASE SHIFT ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

VTR mode; PLAY mode Equipment; Vectorscope

Switches & Controls Setting;

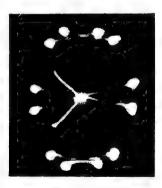
Same as Section 6-3 except the following.

PR-40A Board S1, COMP/DUB Switch; DUB

Input Signal (VTR IN);

PAL Color Bars

Step 1. Adjustment OUT-1 (BVT-810P)



Spec; Straighten the locus on vectorscope monitor.

NR-11 Board ORV106



SECTION 18 CHROMA NOISE REDUCER ALIGNMENT

18-1. AGC LOOP ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

NR-11 Board



18-2. DELAY LINE FREQUENCY RESPONSE ADJUSTMENT

Connection; Same as Sectin 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

ALT mode

Switches & Controls Setting:

Same as Section 6-3

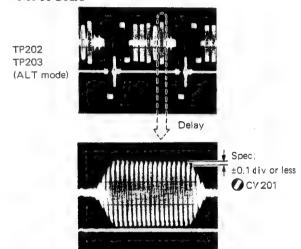
Input Signal (OFF TAPE VIDEO IN);

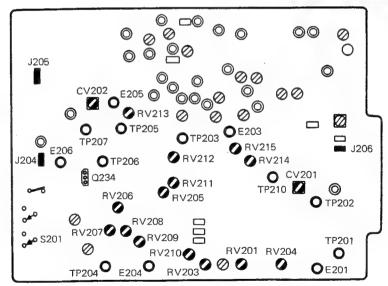
Multi Burst

FREQ RANGE; LOW AMPL; REDUCED

Adjustment

NR-11 Board





NR-11 Board - component side -

18-3. DELAY TIME/LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

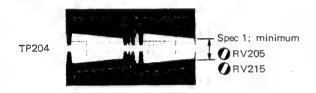
Linearity Ramp

PEAK WHITE; 50% U-SUB CARRIER; ON

Step 1. Remove the J204 and J205 short sockets from NR-11 board.

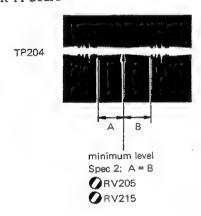
Step 2. Adjustment 1

NR-11 Board



Note 1. Adjust RV205 and RV215 alternately.

Step 3. Adjustment 2 NR-11 Board



Note 2. If the waveform at minimum level is flat in Step 2, don't make adjustment in Step 3.

Step 4. Plug the J204 and J205 short sockets to NR-11 board.

18-4. FEED BACK GAIN ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; VD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

Linearity Ramp

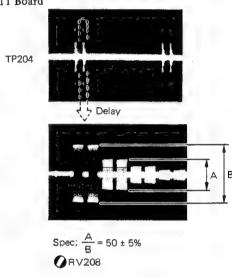
PEAK WHITE; 50%

U-SUB CARRIER; ON

Step 1. Remove the J204 and J205 short sockets from NR-11 board.

Step 2. Adjustment

NR-11 Board



Step 3. Plug the J204 and J205 short sockets to NR-11 board.

18-5. Y VERTICAL CORRELATION ADJUST-MENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

Linearity Ramp

PEAK WHITE; 50% U-SUB CARRIER; ON

Adjustment



18-6. Y HORIZONTAL CORRELATION ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; VD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

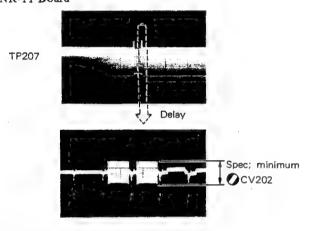
Linearity Ramp

PEAK WHITE; 50%

U-SUB CARRIER; ON

Adjustment

NR-11 Board



18-7. CHROMA HORIZONTAL COR-RELATION ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment;

Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

Linearity Ramp

PEAK WHITE; 50%

U-SUB CARRIER; ON

Adjustment

NR-11 Board



Note Adjust RV212 and RV213 alternately.

18-8. SWITCHING BALANCE ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting:

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

Linearity 5 steps

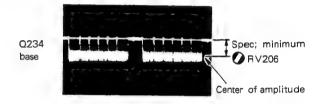
PEAK WHITE; 50%

U-SUB CARRIER; ON

Step 1. Remove the J206 short socket from NR-11 Board.

Step 2. Adjustment 1

NR-11 Board



Step 3. Adjustment 2

NR-11 Board



Step 4. Plug the J206 short socket to NR-11 board.

18-9. PEDESTAL LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment;

Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

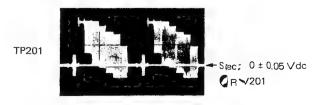
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

NR-11 Board



18-10. VIDEO LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

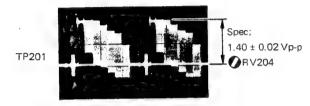
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Adjustment

NR-11 Board



18-11. NOISE FILTER ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; V

Vectorscope
GAIN; MAX

Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

Linearity Ramp

PEAK WHITE; 50%

U-SUB CARRIER; ON

Step 1. Remove the J204, J205 and J206 short sockets

from NR-11 board.

Step 2. Adjustment

OUT-1 (BVT-810P)



Spec: Straighten the dots on Vectorscope monitor.

Step 3. Plug the J204, J205 and J206 short sockets to NR-11 board.

18-12. NOISE CANCEL LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 2

VTR mode; PLAY

Equipment; Vectorscope

GAIN; UP

Switches & Controls Setting;

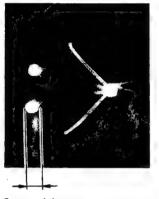
Same as Section 6-3

Input Signal (VTR IN);

PAL Color Bars

Adjustment

OUT-1 (BVT-810P)



Spec; minimum

NR-11 Board ORV203

SECTION 19 BEAT CANCELLER ALIGNMENT

19-1. BEAT CANCELLER OFFSET ADJUST-MENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3 except the following.

NR-11 Board S202.

BEAT CANCELLER Switch; ON

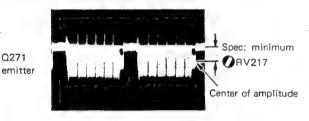
Input Signal (OFF TAPE VIDEO IN);

Linearity 5 steps

PEAK WHITE; 50% U-SUB CARRIER; ON

Adjustment

NR-11 Board



19-2. SUBCARRIER TRAP ADJUSTMENT

For the machines with Serial No. 10001 through 10430, this adjustment is not applicable, and perform the Sec. 19-3. Beat Canceller Gain Adj. after the Sec. 19-1. adjustment.

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3 except the following.

NR-11 Board S202,

BEAT CANCELLER Switch; ON

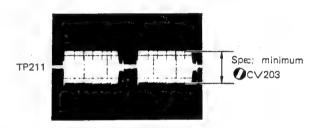
Input Signal (OFF TAPE VIDEO IN);

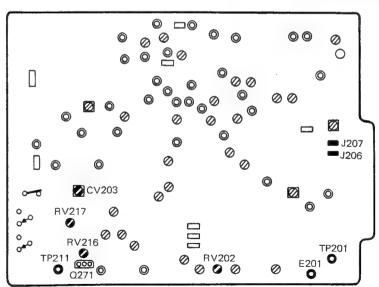
Linearity 5 steps

PEAK WHITE; 50% U-SUBCARRIER; ON

Adjustment

NR-11 Board





NR-11 Board - component side -

19-3. BEAT CANCELLER GAIN ADJUST-MENT

Connection; Same as Section 6-2, Connection 2

VTR mode; PLAY Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

Switches & Controls Setting;

Same as Section 6-3 except the following.

SG-21 Board S2,

B/W/COLOR/AUTO Switch; B/W

PR-40A Board S1, COMP/DUB Switch; DUB

NR-11 Board S202,

BEAT CANCELLER Switch; ON

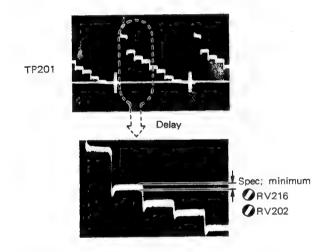
Input Signal (VTR IN);

PAL Color Bars

Step 1. Remove the J207 short socket from NR-11 board.

Step 2. Adjustment

NR-11 Board



Step 3. Plug the J207 short socket to NR-11 board.



SECTION 20 VIDEO OUTPUT LEVEL ALIGNMENT

20-1. OUTPUT Y LEVEL & CHROMA LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Oscilloscope

Input; DC

Trigger; HD (test signal generator)

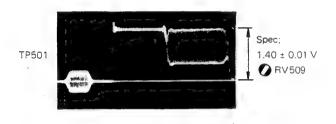
Switches & Controls Setting;

Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

PAL Color Bars

Step 1. Output Y Level Adjustment PR-40A Board



Step 2. Check that the chroma level at Edge Connector 32B on PR-40A board is within the following specification.

SG-21 Board

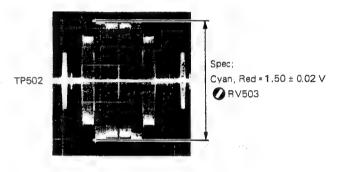
Spec; Write Chroma Level = 1.00 ± 0.02 Vp-p

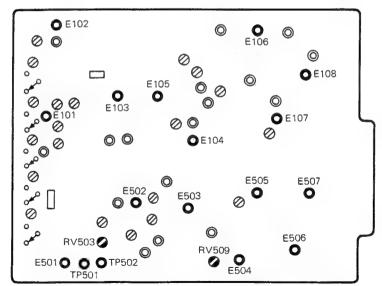
If the value is out of the specification, perform the following adjustment.

SG-21 Board;

Section 13-4. Write Chroma Level Adjsutment

Step 3. Output Chroma Level Adjustment PR-40A Board





PR-40A Board - component side -

20-2. BYPASS VIDEO OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Waveform Monitor Switches & Controls Setting;

Same as Section 6-3 except the following.

SG-21 Board S3,

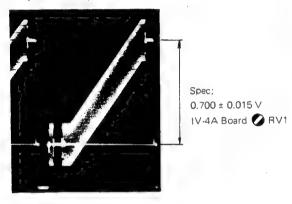
BYPASS/NORMAL Select Switch; BYPASS

Input Signal (OFF TAPE VIDEO IN);

Ramp linearity 1 Vp-p 0.3 V SUBCARRIER ON

Adjustment

OUT-1 (BVT-810P)



20-3. NORMAL VIDEO OUTPUT LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

Equipment; Waveform Monitor Switches & Controls Setting;

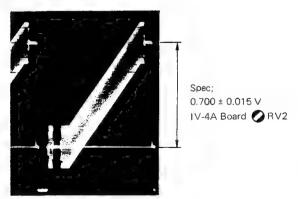
Same as Section 6-3

Input Signal (OFF TAPE VIDEO IN);

Ramp linearity 1 Vp-p 0.3 V SUBCARRIER ON

Adjustment

OUT-1 (BVT-810P)



20-4. VIDEO OUTPUT SYNC LEVEL ADJUSTMENT

Connection; Same as Section 6-2, Connection 1

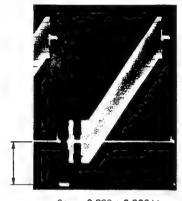
Equipment; Waveform Monitor Switches & Controls Setting;

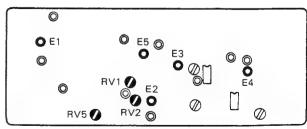
Same as Section 6-3 Input Signal (OFF TAPE VIDEO IN); Ramp linearity 1 Vp-p

0.3 V SUBCARRIER ON

Adjustment

OUT-1 (BVT-810P)

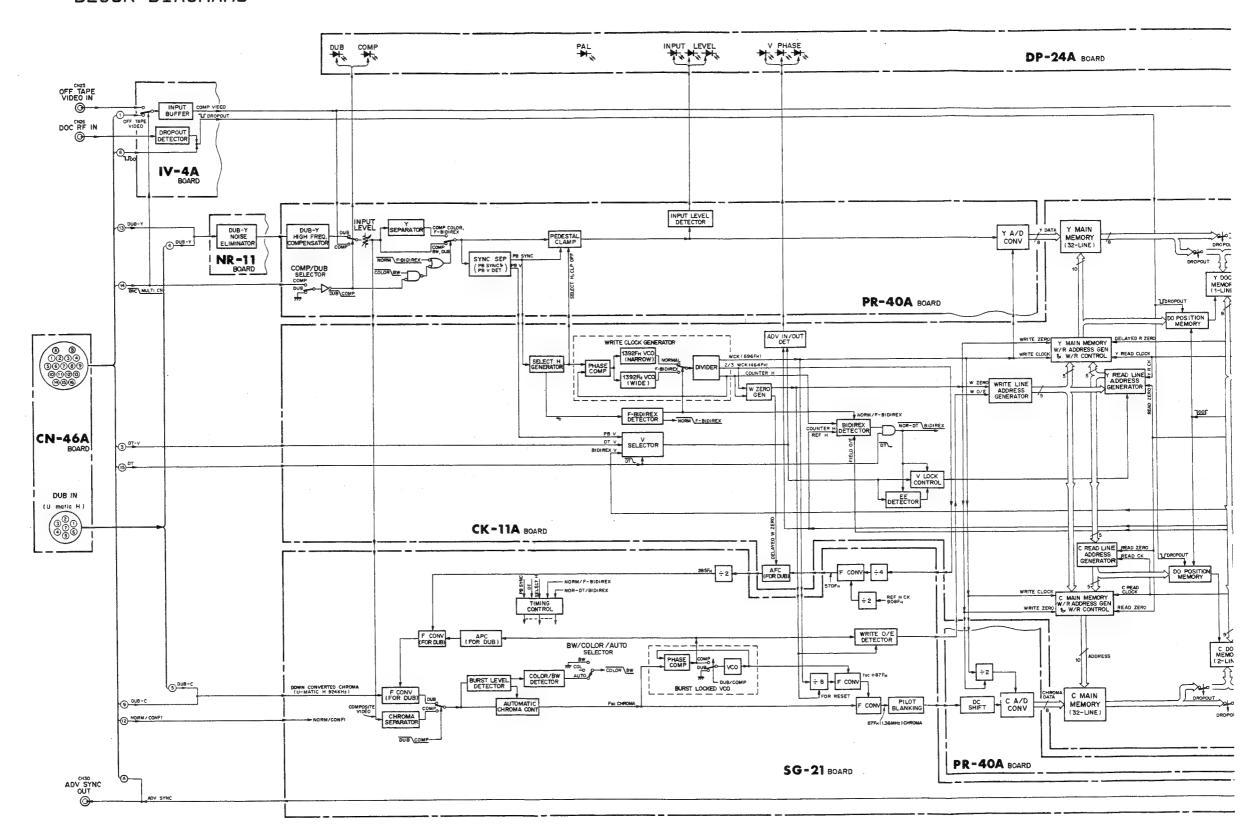


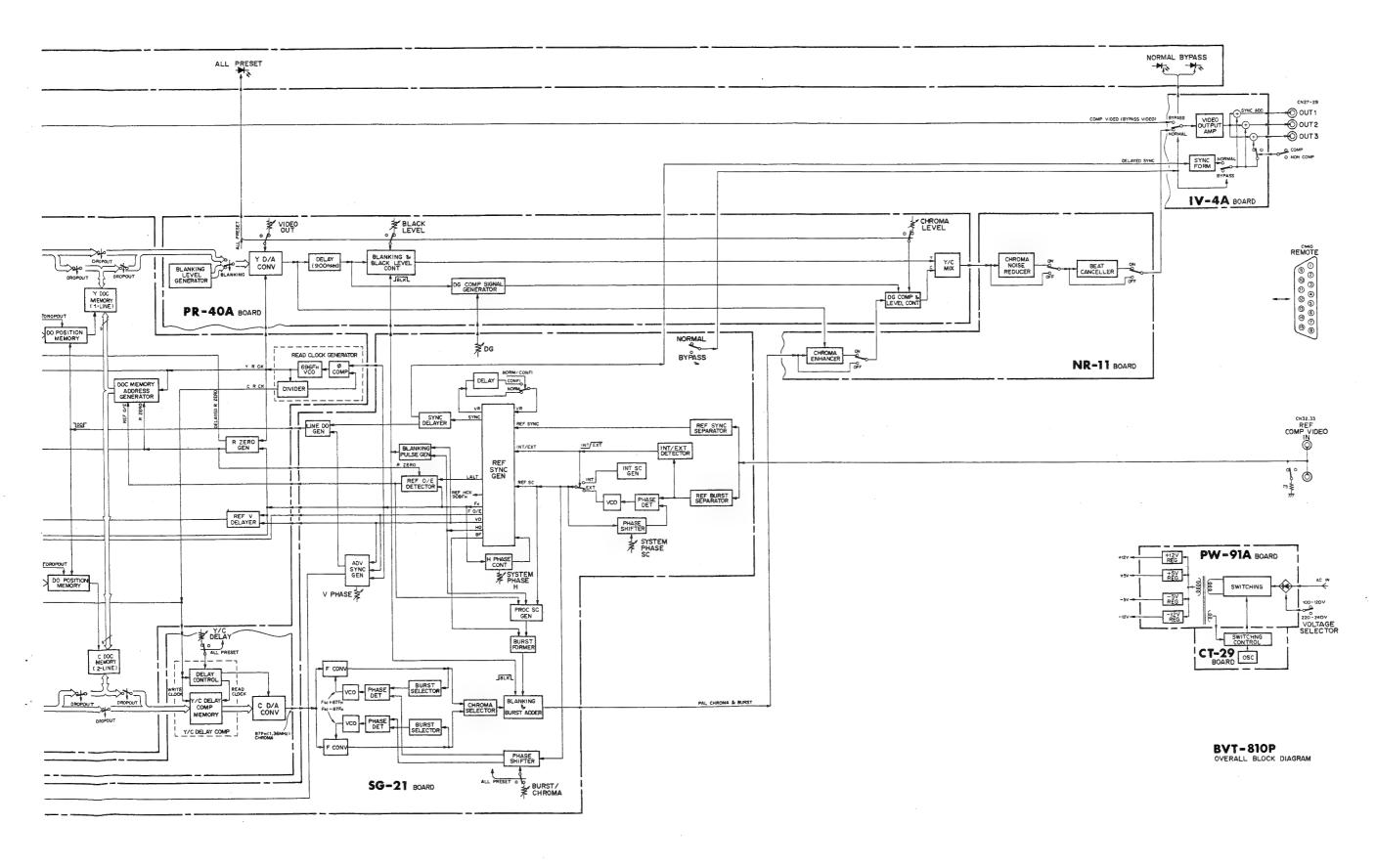


IV-4A Board - component side -

SECTION 21
BLOCK DIAGRAMS

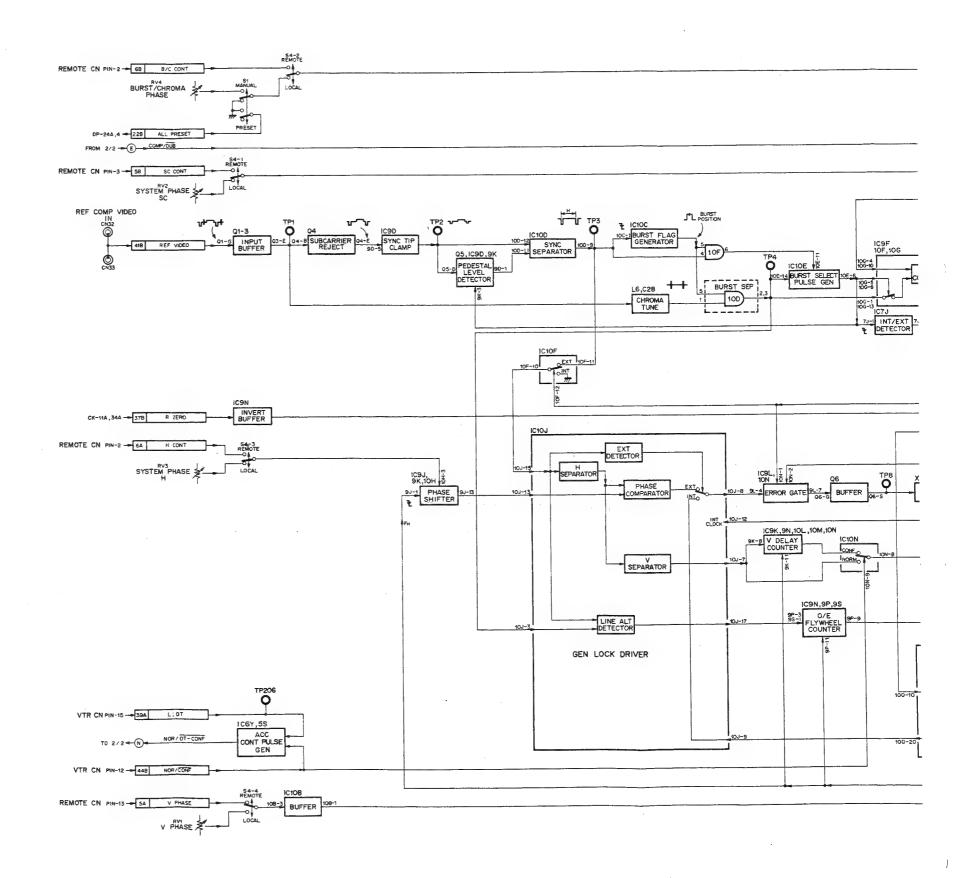
OVERALL BLOCK DIAGRAM

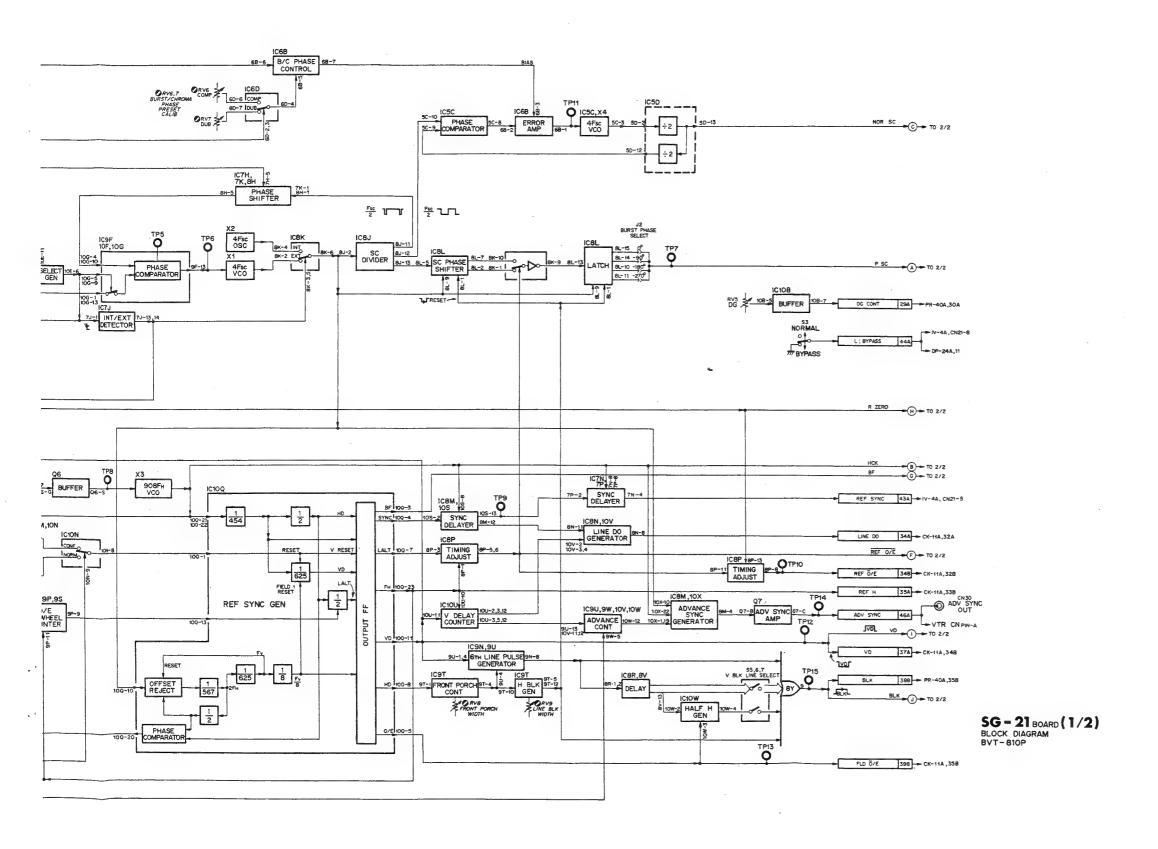


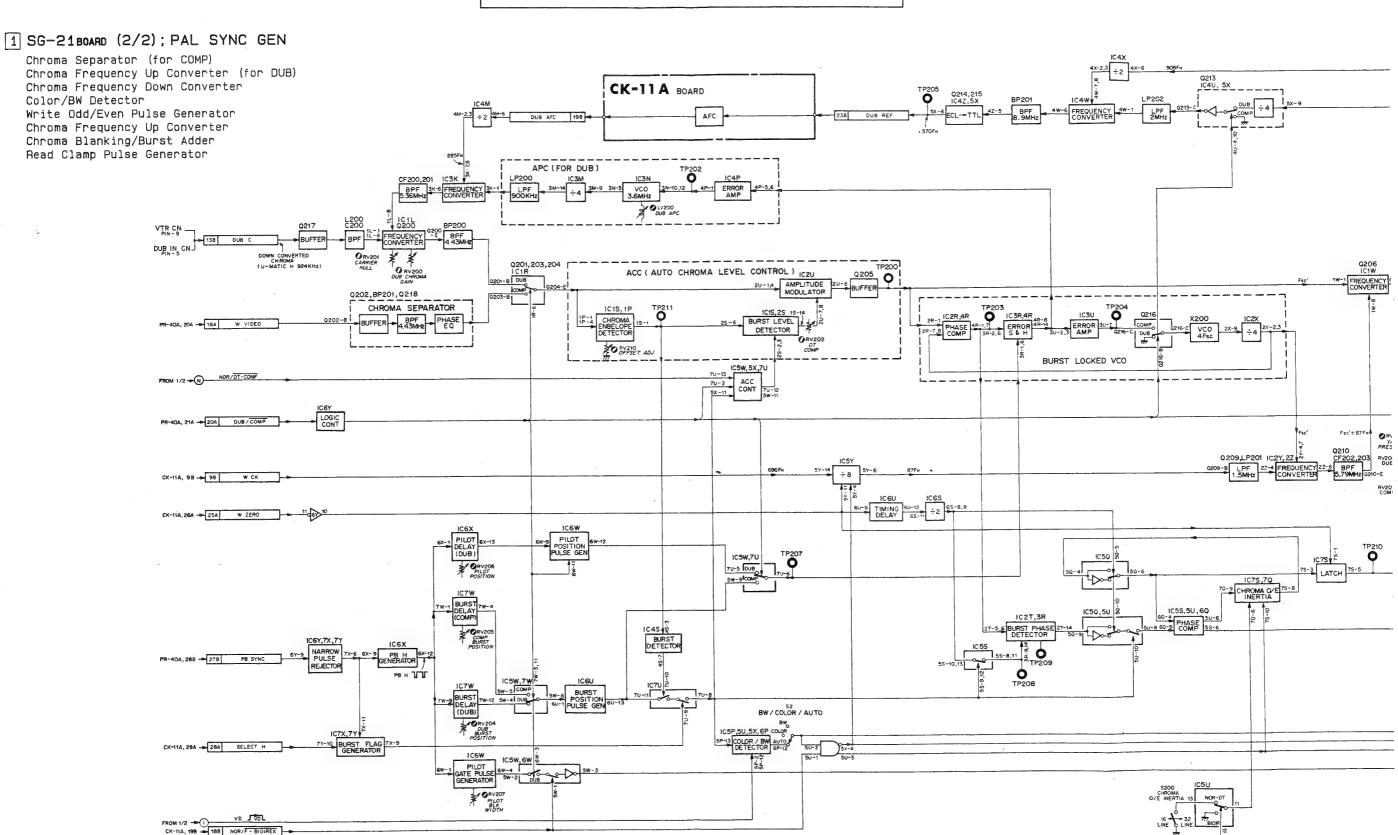


1 SG-21 BOARD (1/2); PAL SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Proc SC Generator
Burst/Chroma Phase Control
SC Phase Control
System Phase Control
V Phase Control

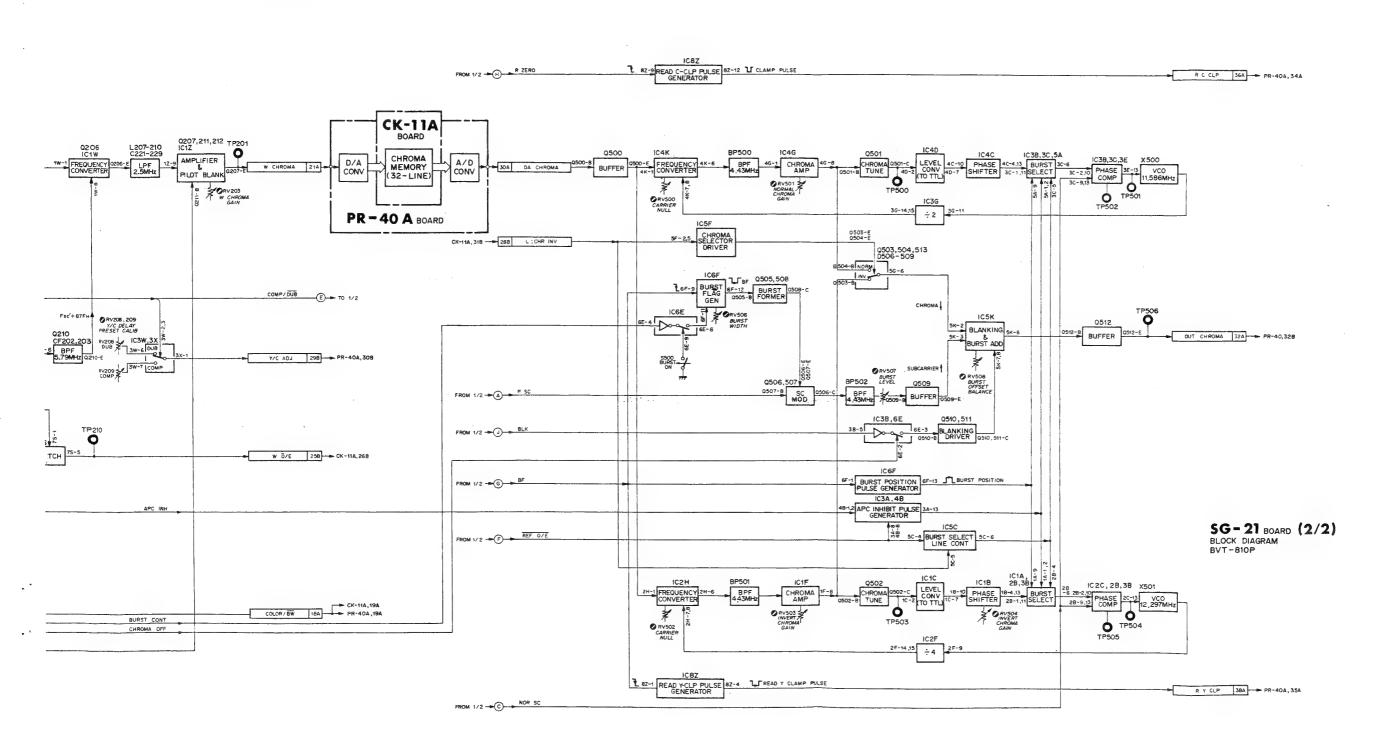






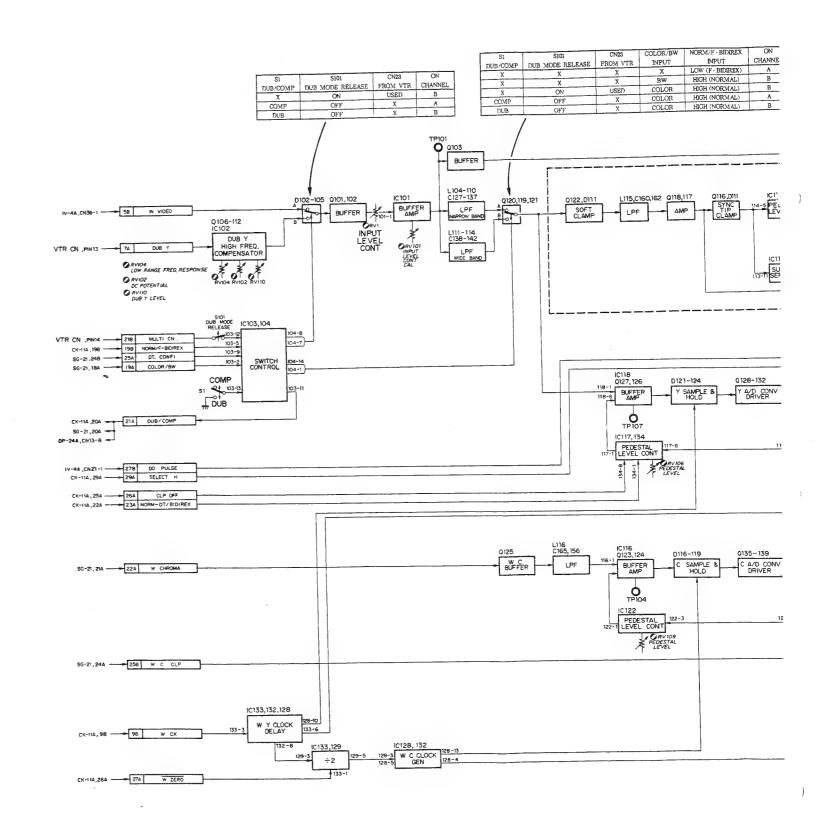
CK-11A, 228 - 224 NOR-DT / BIDIREX

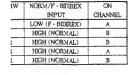
HCK B FROM 1/2

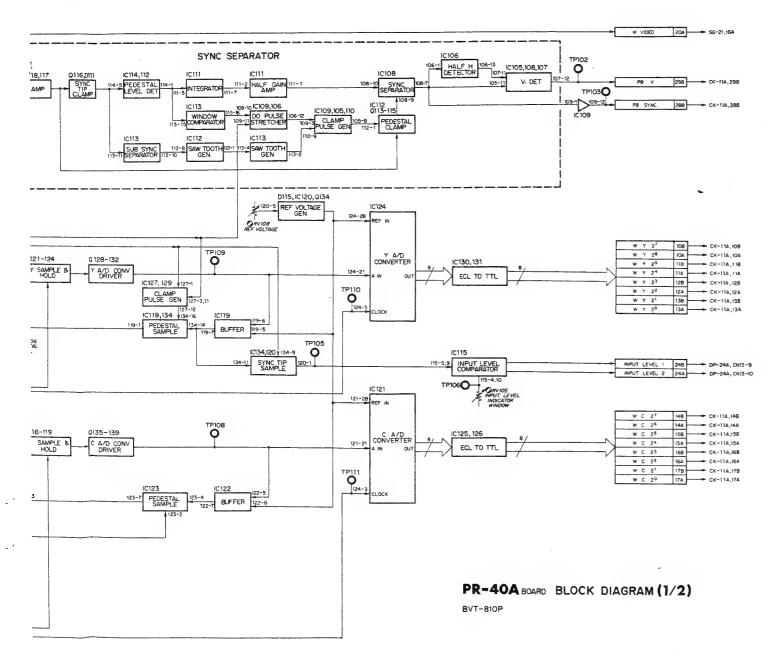


2 PR-40A BOARD (1/2); PROCESSOR

DUB Y Edge Enhancer
Input Level Control
Y Color/BW Select
PB V, PB Sync Generator
Y A-D Converter
Input Level Detector
C A-D Converter

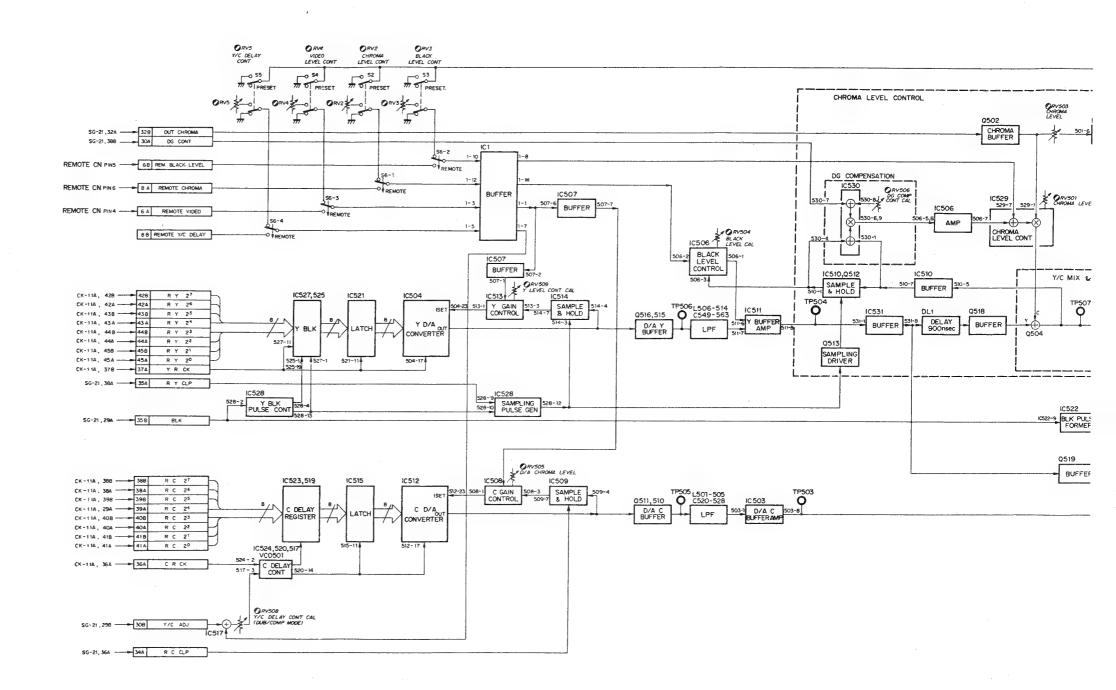


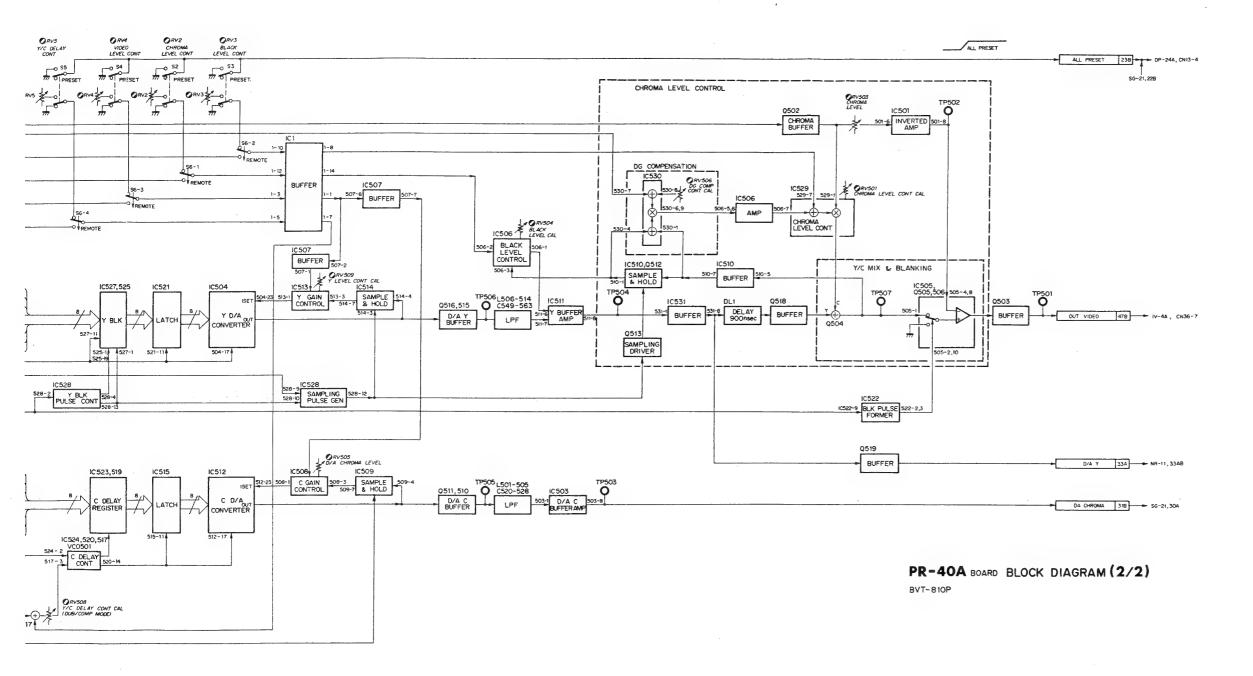


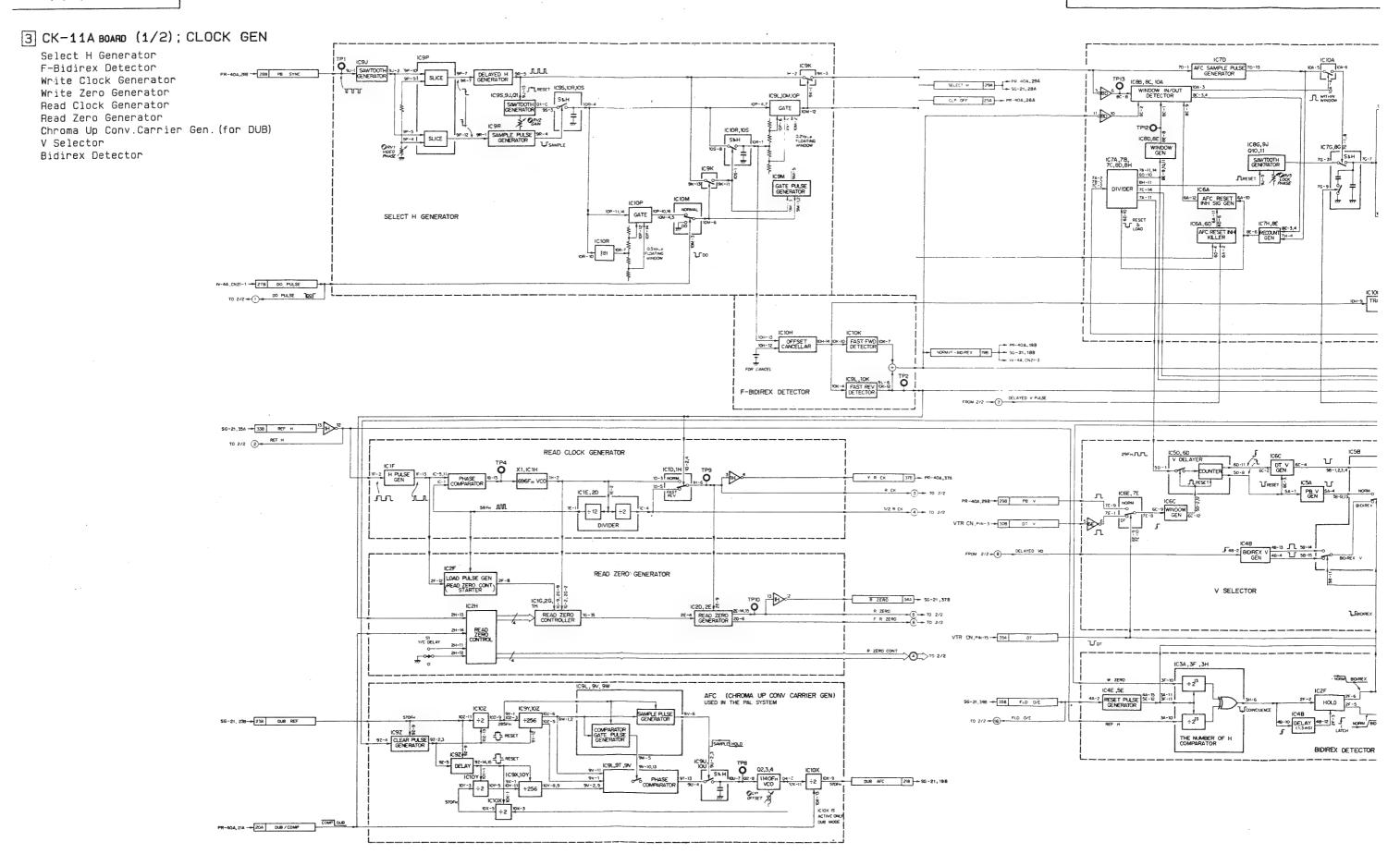


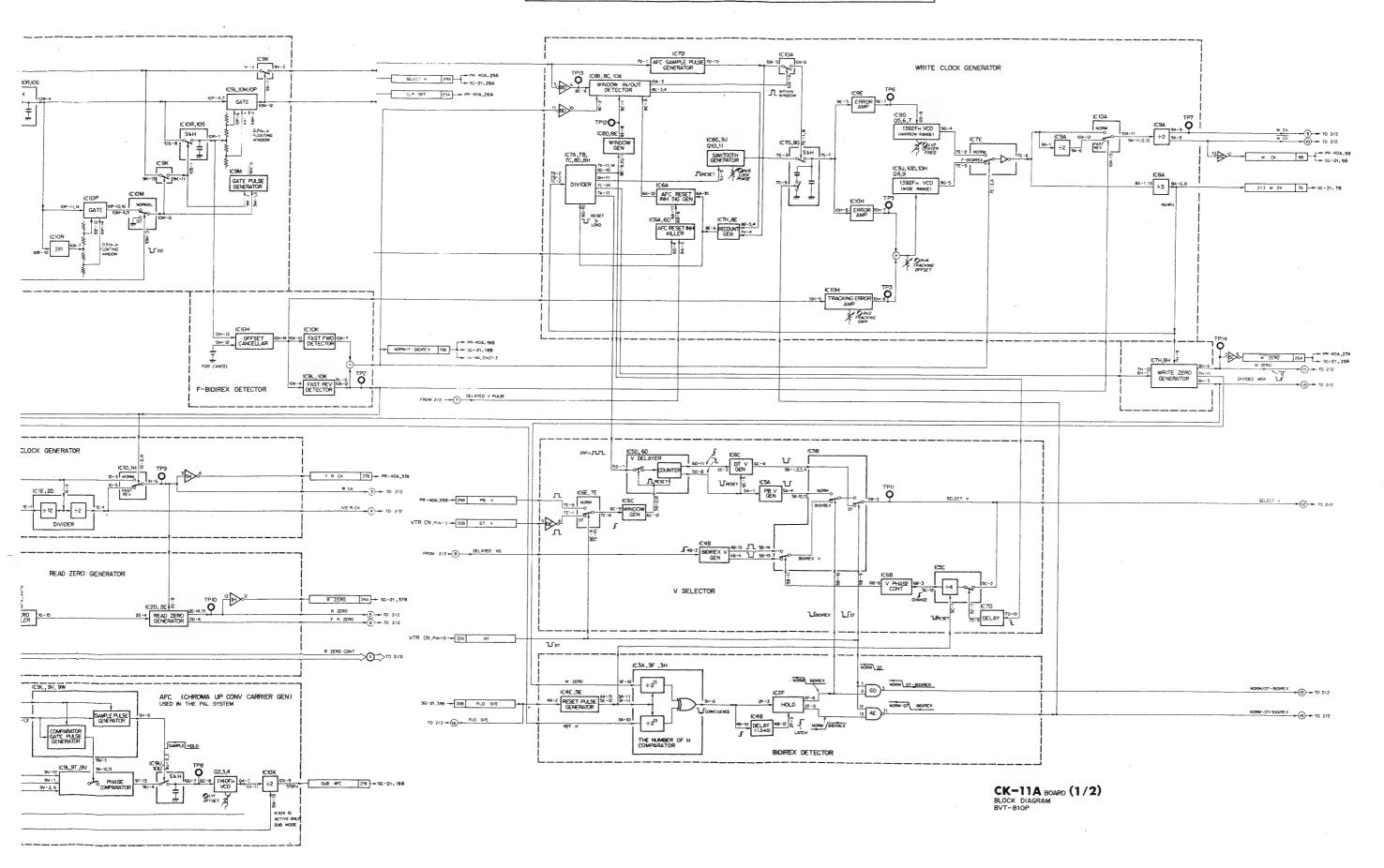
2 PR-40A BOARD (2/2); PROCESSOR

Y D-A Converter C D-A Converter Video, Chroma, Black Level Control Y/C Delay, DG Compensation Control



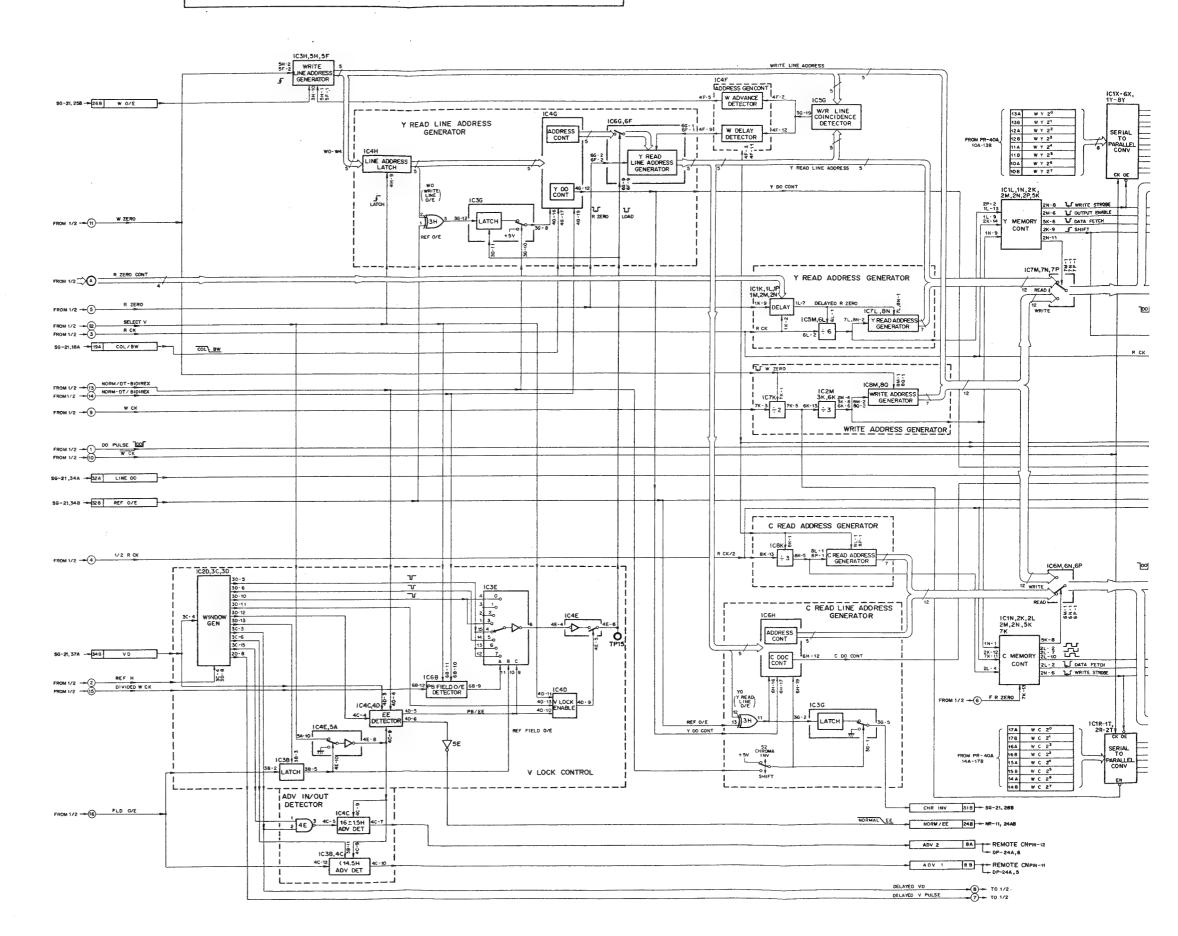


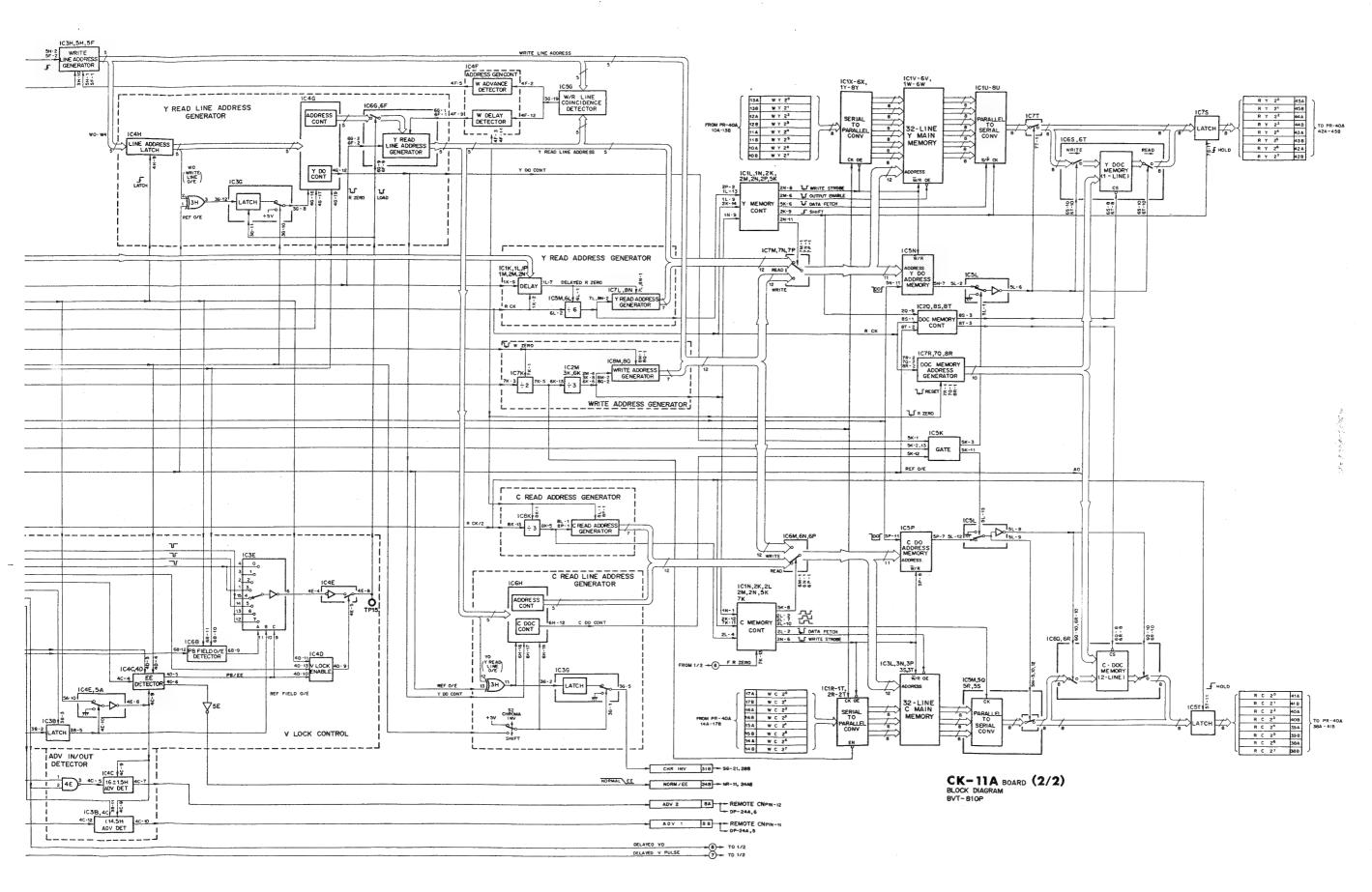




3 CK-11A BOARD (2/2); CLOCK GEN

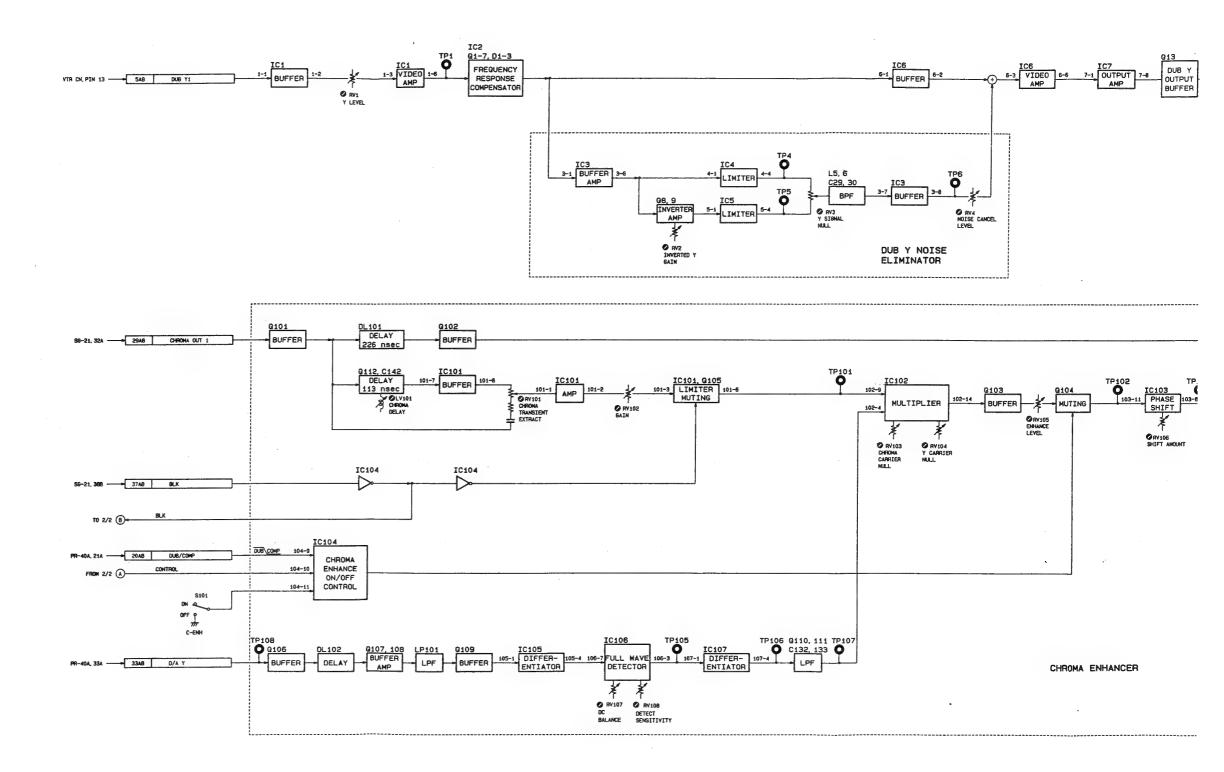
W/R Line Address Generator Normal/EE Detector Main Memory W/R Address Generator 32-Line Main Memory DOC Memory

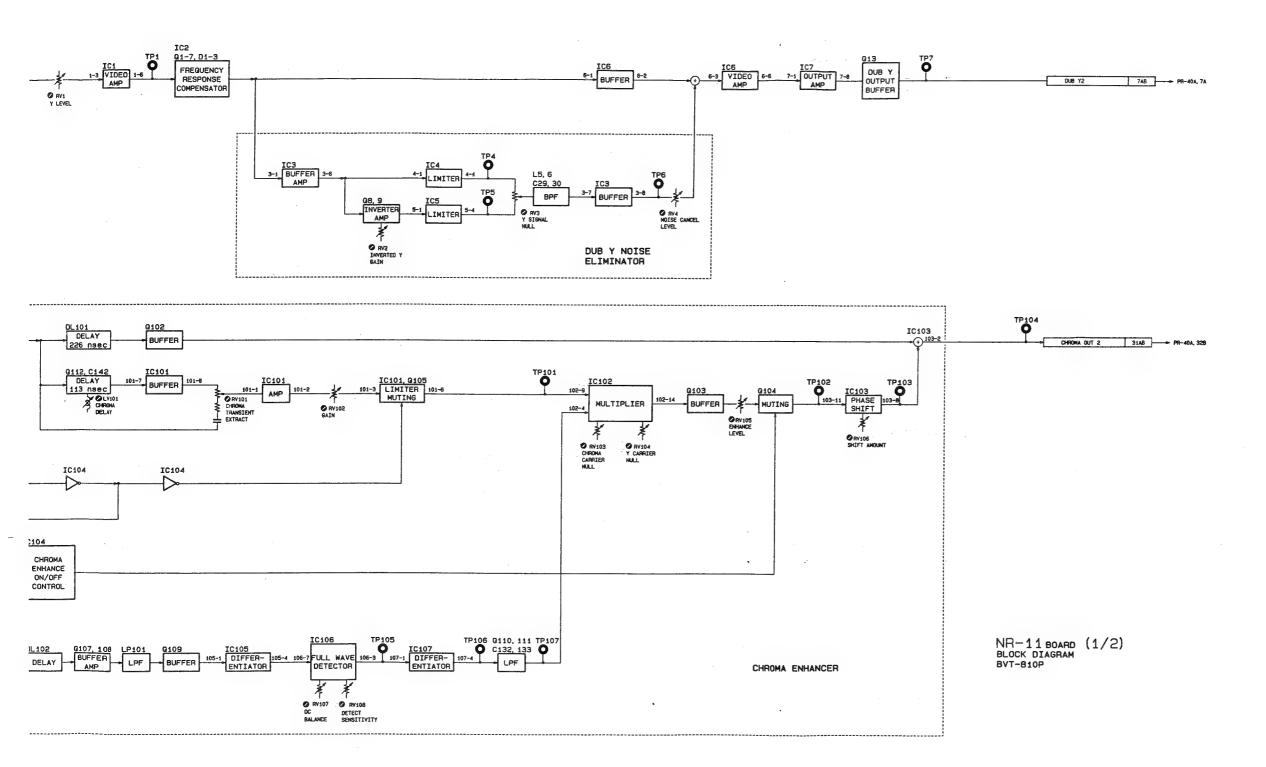




4 NR-11 BOARD (1/2); NOISE REDUCER

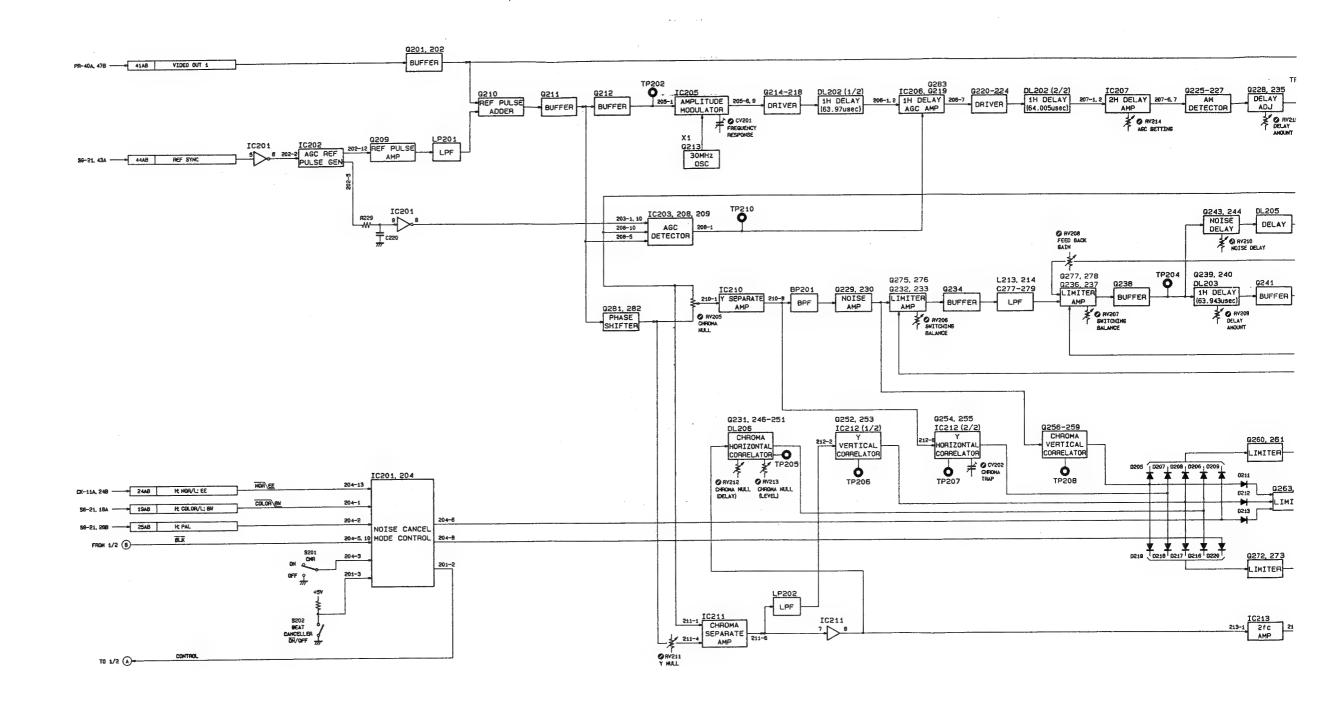
DUB Y Noise Canceller Chroma Enhancer



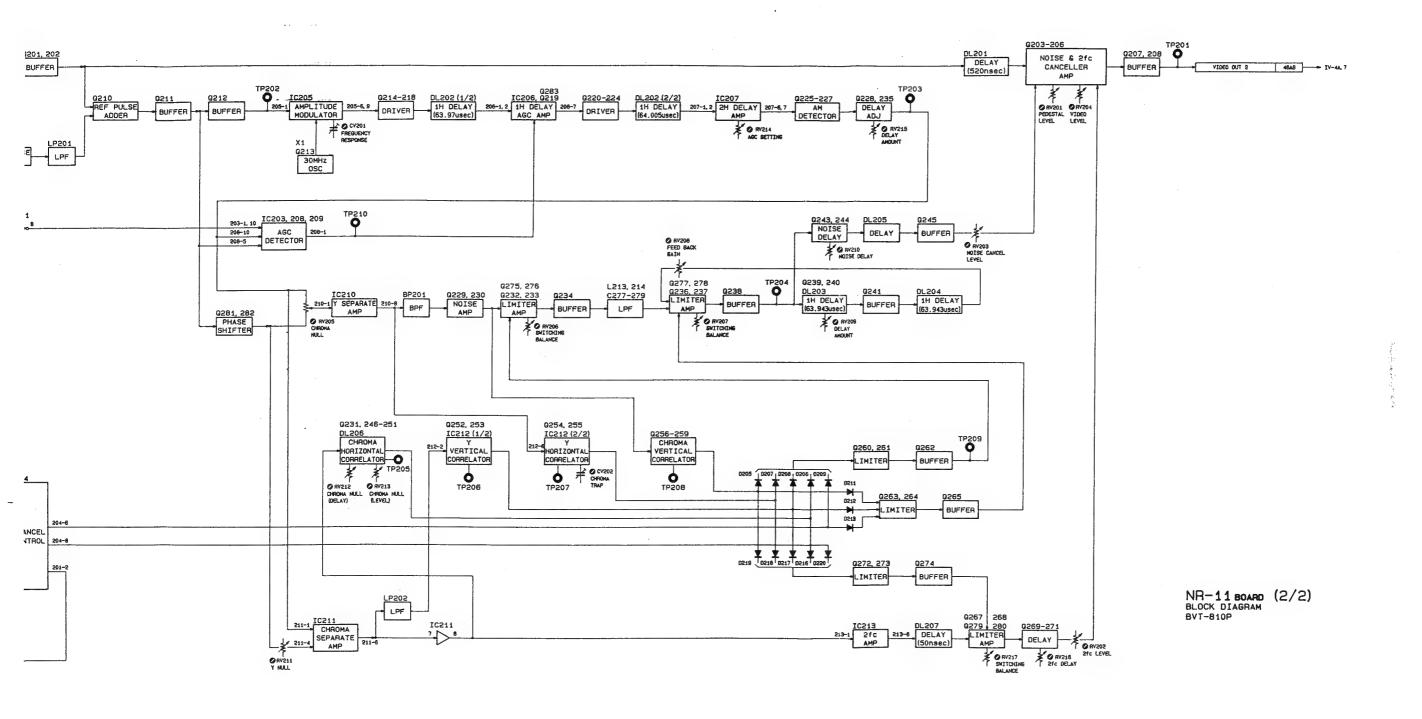


4 NR-11 BOARD (2/2); NOISE REDUCER

Chroma Noise Reducer Beat Canceller

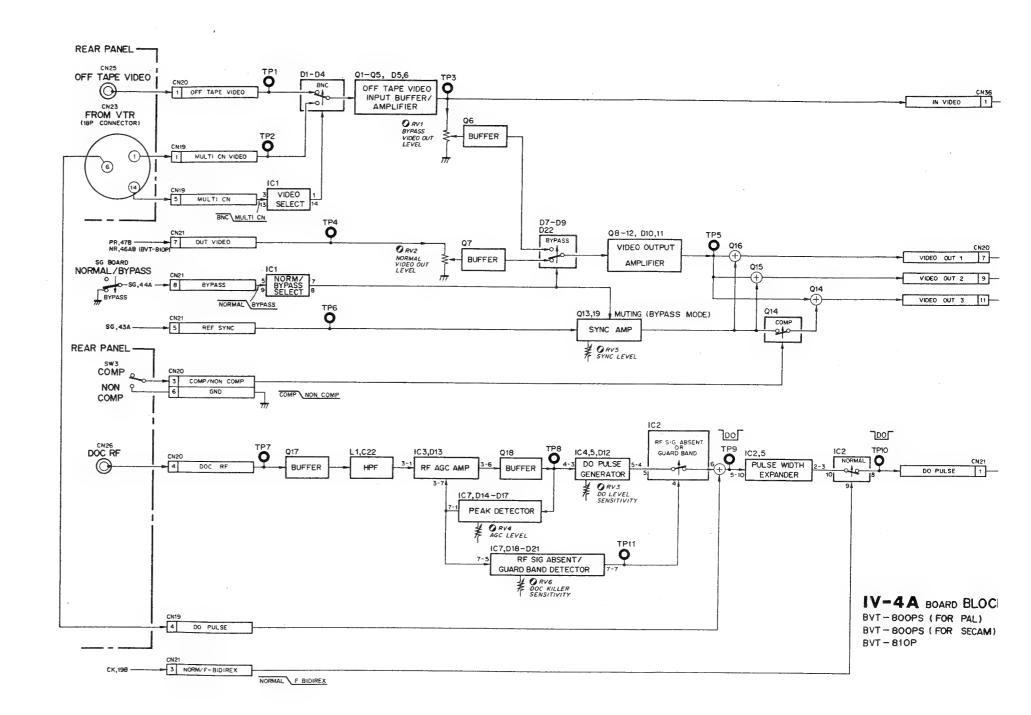


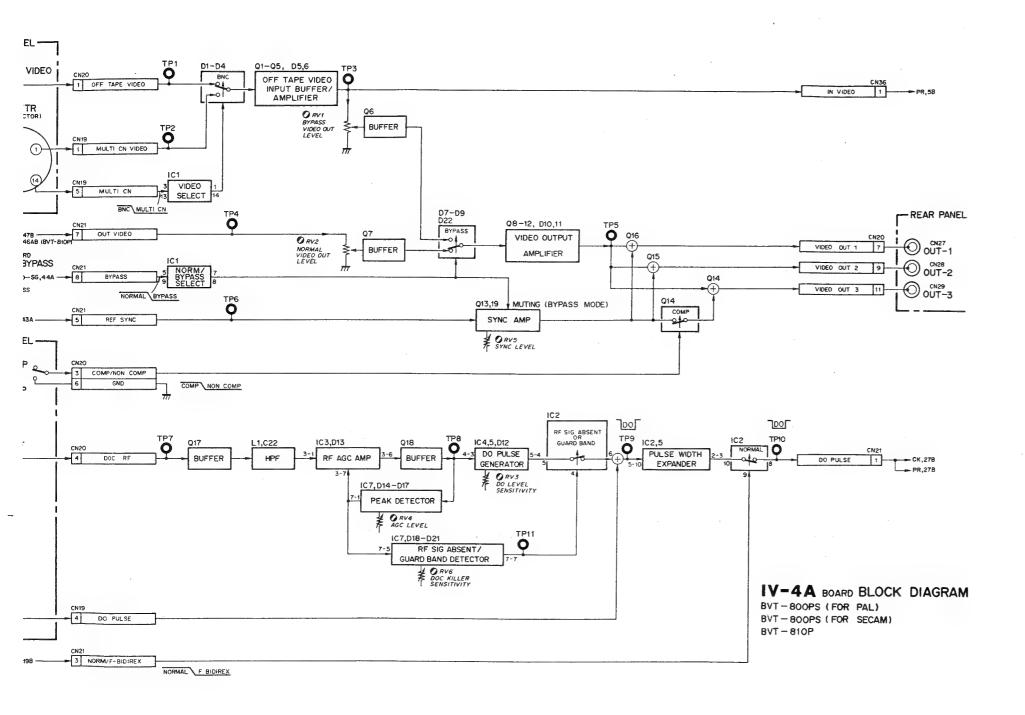
3RAM NR-11 (2/2)



IV-4A BOARD

Video Input Amplifier Video Output Amplifier DO Detector





......

SECTION 22 SEMICONDUCTOR ELECTRODES

The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

IC					
TYPE	PAGE	TYPE	PAGE	TYPE	PAGE
BA4558	22-3	M51841P	22-8	SN74LSOON	22-11
				SN74LSO2N	22 - 11
BX1250	22-3	MB3614	22-9	SN74LS04N	22-7
BX1256	22-3	MB4002	22-9	SN74LSO8N	22-11
BX365A	22-3	MB7051	22-18	SN74LS10N	22-7
BX381	22-3				
BX389	22-3	MB74LS04	22-7	SN74LS113AN	22-11
		MB74LS10	22-7	SN74LS114AN	22 - 11
		MB74LS12	22-7	SN74LS11N	22-11
CA3054	22-3	MB74LS221	22-7	SN74LS123N	22-11
CA3102E	22-3			SN74LS12N	22-7
		MB8147E	22-9		
CX20051	22-4	MB8147F-35	22-9	SN74LS14N	22-12
CX20051A	22-4	MB8147F-45	22-9	SN74LS151N	22-12
CX20052	22-4			SN74LS157N	22-7
CX20052A	22-4	MBM2149L-55	22-9	SN74LS158N	22-12
CX773A	22-4			SN74LS161AN	22-12
V		MC10116L	22-6		
CX773B	22-4	MC10125L	22-6	SN74LS163AN	22 - 10
CX7903	22-6	MC10131L	22-7	SN74LS164N	22-12
		MC10198L	22-9	SN74LS166AN	22-13
		MC1495L	22-10	SN74LS174N	22 - 13
FT5709M	22-6			SN74LS175N	22-13
		MC1648P	22-10		
				SN74LS191N	22-13
HA1-4905	22-6	MSM5128-12RS	22-8	SN74LS20N	22-14
HA17458GS	22-6			SN74LS221N	22-7
				SN74LS273N	22-14
HD10116	22-6	NJM4558D	22-3	SN74LS30N	22-14
HD10125	22-6	NJM4560D	22-10		
HD10131	22-7			SN74LS32N	22-14
				SN74LS365AN	22-14
HD74LS04P	22-7	RC4558	22-3	SN74LS367AN	22-7
HD74LS10P	22-7			SN74LS374N	22-14
HD74LS12P	22-7			SN74LS377N	22-15
HD74LS157P	22-7	SN7406N	22-10		
HD74LS221P	22-7	SN7407N	22-10	SN74LS393N	22-15
		SN74163N	22-10	SN74LS423N	22-15
HD74LS367AP	22-7	SN74221N	22-7	SN74LS51N	22-15
HD74LS74AP	22-7	SN74265N	22-10	SN74LS669N	22-15
HD74LS74P	22-7			SN74LS670N	22-16
HD74LS86P	22-8	SN7438N	22-11		
		SN7474N	22-7	SN74LS684N	22-16
HI1-201	22-8			SN74LS74AN	22-7
-		SN74ALSOON	22-11	SN74LS86N	22-8
HM6116LP-2	22-8				

		TRANSISTOR		DIODE	
TYPE	PAGE	TYPE	PAGE	TYPE	PAGE
SN74S04N	22-7	2 N 2 3 6 9 A	22-20	10E-1	22-20
SN74SU4N SN74S113N	22-11			10E-2	22-20
SN748113N	22-16	2SA1005	22-20		
SN74S175N	22-13	2SA1048	22-20	1 N 4 1 4 8 H	22-20
SN74S51N	22-16	2SA1115	22-20		
SN74S86N	22-8	2SA1164	22-20	181555	22-20
		2SA1175	22-20	1 S 1 5 8 7	22-20
SN75207BN	22-16			1 S 2 O 7 6	22-20
		2SA1175F	22-20	1 S 2 3 4 8 H	22-20
		2SA530H	22-20	1 S 2 4 7 3	22-20
T A7060 AP	22-16	2 S A 8 4 4	22-20		
		2 S A 9 3 3 S	22-20	188119	22-20
TBP28S42N	22-19	2 S A 9 9 5	22-20	188133	22-20
				188148	22-20
TC4012BP	22-16	2 S A 1 2 0 6	22-20	18888	22-20
TC4020BP	22-17			18897	22-20
TC4040BP	22-17	2SB733	22-20		
		2SB734	22-20	1 S Z 5 2	22-20
TL082CP	22-17	2SB757	22-20		
TL084CN	22-17			1 T 2 5	22-20
TL494CN	22-17	2SC1128	22-20		
TL601CP	22-17	2SC1199	22-20	EQA02-???	22-20
TL607CP	22-18 22-18	2 S C 1 2 5 2	22-20	ERC24-??S	22-20
TL710CP	22-10	2SC1311	22-20		00 00
		2SC1583	22-20	ESAC25-02C ESAC25-02N	22-20 22-20
u A733HC	22-18	2SC1636	22-20	ESAD83	22-20
u A760HC	22-18	2SC1740S	22-20		
MC1496G	22-18	2SC2009	22-20	LD003	22-20
		2SC2335	22-20	LT9010H	22-20
uPC319C	22-18	2SC2458	22-20	LT9010N	22-20
uPC324C	22-9	2002.00			
uPC4082C	22-17	2802603	22-20	HZ??EB	22-20
uPC4557C	22-18	2SC2603R	22-20		
uPC4558C	22-3	2 S C 2 6 2 5	22-20	QSCH-1754	22-20
		2SC2724	22-20	•	
		2SC2785	22-20	RD??EB	22-20
		2SC2785F	22-20	TLR124	22-20
		2SC2787	22-20		
		2SC2878	22-20	U15?	22-20
		2802975	22-20		
		2 S C 4 O 3 S P	22-20	US1035	22-20
		2SC689H	22-20	V11?	22-20
		2SD773	22-20		
		2SD847	22-20		
		2 S K 4 3	22-20		
		25K43 25K523	22-20		
		200723	22 20		

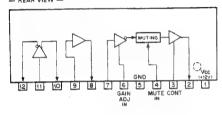
2SK58

22-20

BA4558 (ROHM) NJM4558D (JRC) RC4558 (RAYTHEON) uPC4558C (NEC) OPERATIONAL AMPLIFIER — TOP VIEW —



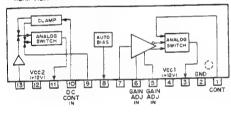
BX1250 (SONY) CHROMA OUTPUT AMPLIFIER — REAR VIEW —



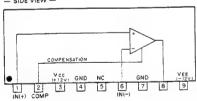
BX1256 (SONY)

FULL WAVE DETECTOR/CORRELATION SWITCH

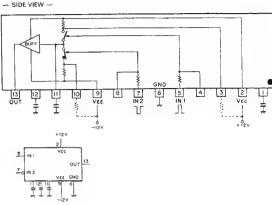
— REAR VIEW —



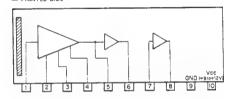
BX365A (SONY) VIDEO AMPLIFIER — SIDE VIEW —



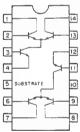
BX381 (SONY) PHASE COMPARATOR — SIDE VIEW —



BX389 (SONY) VIDEO AMPLIFIER — PRINTED SIDE —

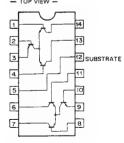


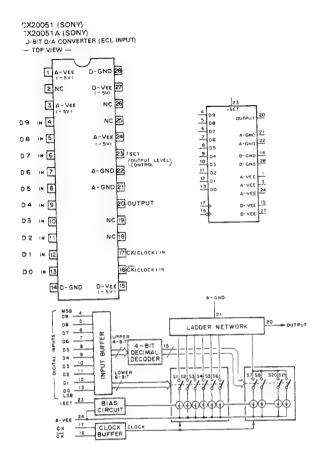
CA3054 (RCA)
DIFFERENTIAL AMPLIFIER
TOP VIEW —

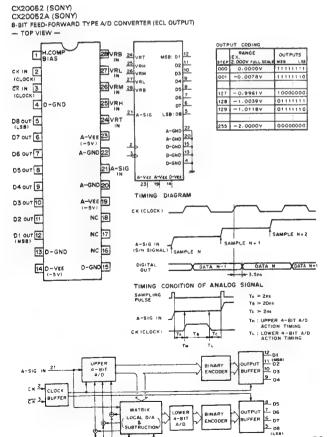


REFERENCE ; LINEAR INTEGRATED CIRCUITS OF RCA

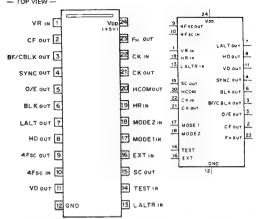
CA3102E (RCA)
HIGH FREQ DIFFERNTIAL AMPLIFIER
TOP VIEW —





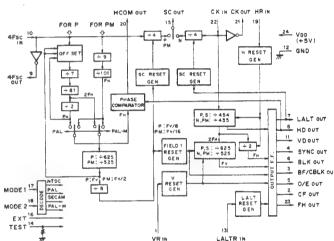


CX773A (SONY)
CX773B (SONY)
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL SECAM)
— TOP VIEW —

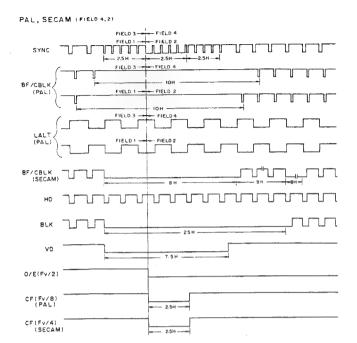


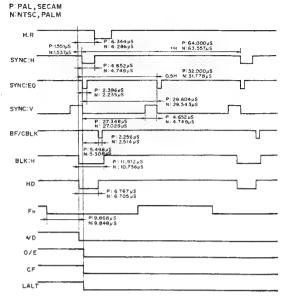
O/E : ODD/EVEN FIELD CF : COLOR FRAME PULSE HCOM : H COMPARATOR

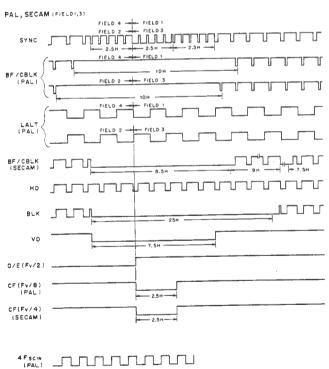
SYSTEM	4Fsc	CLOCK	INP	UTS	SYSTEM	1 N	PUTS	FUNCTION
NTSC	910 FH	910FH	MODE 1	MODE 2	DIDIEM	EXT	TEST	FUNCTION
PAL	1135 FH+2FV	908FH	0	0	NTSC	0	0	INTERNAL
PALM	909 FH	910FH	0	- 1	SECAM	0	1	INVALID
SECAM		908FH	1	0	PALM	1	0	EXT
			1	1	PAL	1	1	TEST
					L (GND)		T "O" OPE ERNALLY LED DOWI	



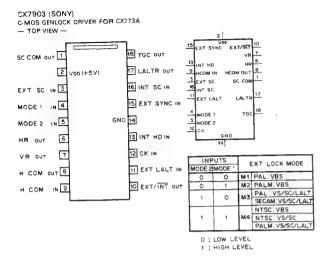


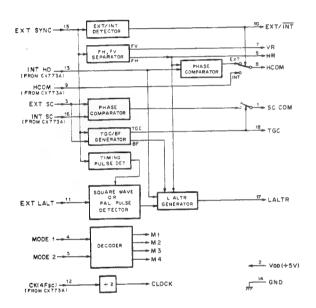


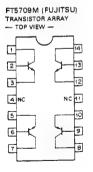




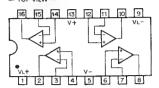








HA1-4905 (HARRIS) VOLTAGE COMPARATOR — TOP VIEW —



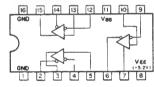
NOTE: V+ AND V- DETERMINE THE ALLOW-ABLE INPUT SIGNAL RANGE.

VL+ AND VL- DETERMINE THE OUTPUT SWING.

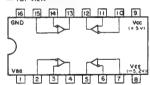
HA17458GS (HITACHI)



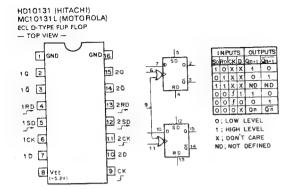
HD10116 (HITACHI)
MC10116L (MOTOROLA)
ECL DIFFERENTIAL OR/NOR LINE RECEIVER
— TOP VIEW —

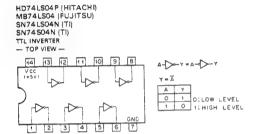


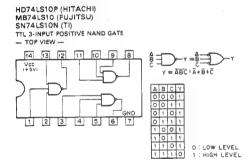
HD10125 (HITACHI) MC10125L (MOTOROLA)
ECL ECL-TO-TTL TRANSLATOR
— TOP VIEW —



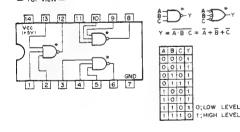






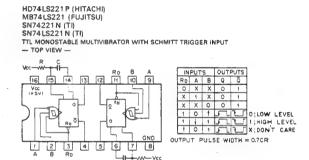


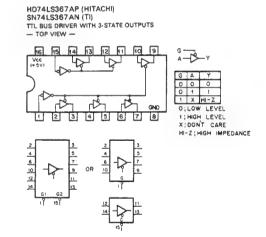
HD74LS12P (HITACHI) MB74LS12 (FUJITSU) SN74LS12N (TI) TTL 3-INPUT POSITIVE-NAND GATE WITH OPEN-COLLECTOR OUTPUT

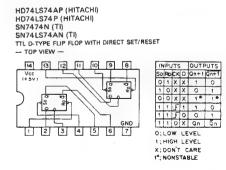


HD74LS157P (HITACHI) SN74LS157N (TI) TTL 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER YO Y1 YC XO X1 IN IN OUT IN IN I4 13 12 11 10 16 15 3 4 VI VC 1 VO

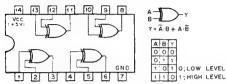
O:LOW LEVEL 1; HIGH LEVEL X; DON'T CARE



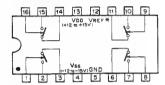








HI1-201 (HARRIS) C-MOS ANALOG SWITCH — TOP VIEW —

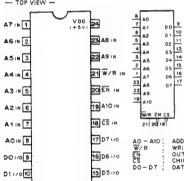


CONT	sw
0	-0-0-
1	~~

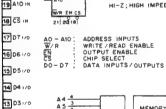
O ; LOW LEVEL 1 ; HIGH LEVEL

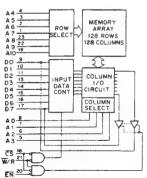
NOTE						
INTERF	ACIAL DEVICE	VREF CONNECTION				
	TTL	Open				
	V00 ≤ 5.5 V	Open				
C-MOS	V > 5.5.1/	To Vanet interfecial IC				

 $\begin{array}{l} \text{HM6116LP-2 (HITACHI) (ACCESS TIME} = 120 \text{ nS)} \\ \text{MSM5128-12RS (OKI) (ACCESS TIME} \Rightarrow 120 \text{ nS)} \\ \text{C-MOS 18384(2048x8)-BIT HIGH SPEED STATIC RAM} \\ - \text{TOP VIEW} - \end{array}$



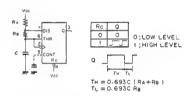
	NPU.		FUNCTION							
ĊŚ	W/R	EN	FORCTION							
0	0	х	WRITE							
0	1	0	READ							
0	1	1	DISABLE (OUTPUT=HI-Z)							
1	х	X	DISABLE (OUTPUT=HI-2)							
O:LOW LEVEL										
			VEL							
x; D	on,	T C	ARE							
MI - 7	7 - H	IGH	IMPEDANCE							



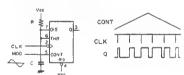


M51841P (MITSUBISHI) PRECISION TIMER — TOP VIEW — CLOCK IN 2 Q OUT 3 RESET IN 4 MONOSTABLE MULTIVIBRATOR A CLK 2 CONT O CLK O C

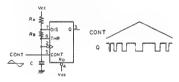




PULSE WIDTH MODULATOR



VCO (PULSE POSITION MODULATOR)



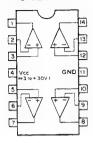


D2 1/0[1]

12 GND



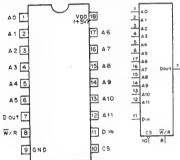




M84002 (FUJITSU) HIGH SPEED VOLTAGE COMPARATOR — TOP VIEW —



MB8147E (FUJITSU) (ACCESS TIME = 70 nS)
MB8147F-35 (FUJITSU) (ACCESS TIME = 35 nS)
MB8147F-45 (FUJITSU) (ACCESS TIME = 45 nS)
N-MOS 4096-BIT STATIC RAM
— TOP VIEW —

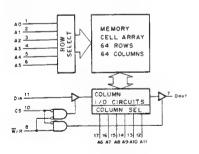


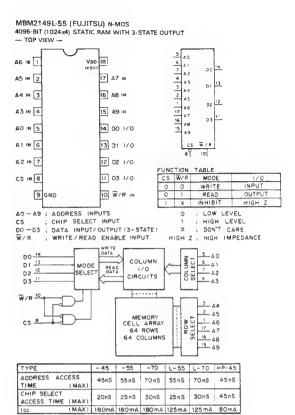
	0	0	WRITE
	0	- 1	READ
	1	X	INHIBIT (OUTPUT;HI-Z)
	0;	LOV	V LEVEL
	1;	HIG	H LEVEL
7	х;	DOM	I'T CARE
	HI-Z	; HIG	H IMPEDANCE

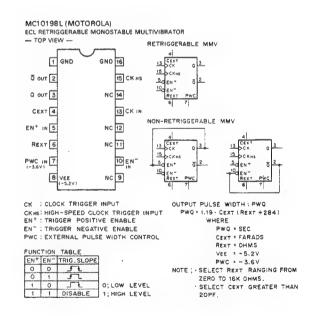
MODE

CS W/R

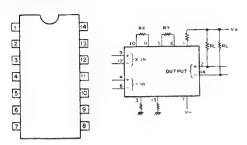
AO - A11; ADDRESS INPUTS
CS: CHIP SELECT INPUT
W/R; WRITE/READ ENABLE INPUT







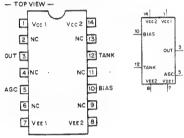
MC1 495L (MOTOROLA) FOUR-QUADRANT MULTIPLIER — TOP VIEW —



MC1648P (MOTOROLA)

ECL VOLTAGE CONTROLLED OSCILLATOR

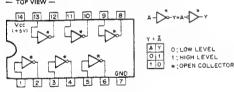
TOP VIEW —



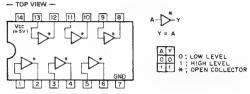
NJM4560D (JRC) OPERATIONAL AMPLIFIER

— TOP VIEW —

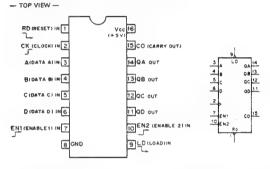




SN7407 N (TI) TTL BUFFER/DRIVER WITH OPEN-COLLECTOR

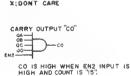


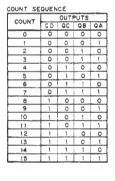
SN74163N (TI) SN74LS163AN (TI) TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER



CON	FROL	INP	JTS	MODE
Ro	LD	ENI	EN2	MODE
0	х	х	×	RESET (SYNCHRONOUS)
1	0	×	×	PRESET (SYNCHRONOUS)
1	1	0	×	NO COUNT
1	1	Х	0	NO COUNT
1	1	1		COUNT

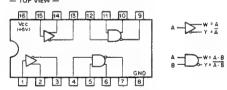
1 HIGH LEVEL



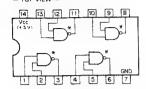


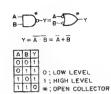
SN74265N (TI) TTL COMPLEMENTARY-OUTPUT ELEMENT

— TOP VIEW —

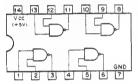


SN7438 N (TI)
TTL 2-INPUT POSITIVE-NAND GATE BUFFER
WITH OPEN-COLLECTOR
— TOP VIEW —



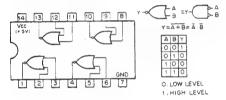


SN74ALSOON (TI) SN74LSOON (TI) TTL 2-INPUT POSITIVE-NAND GATE — TOP VIEW —

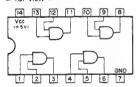


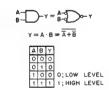


SN74LSO2N (TI)
TTL 2-INPUT POSITIVE-NOR GATE
— TOP VIEW —

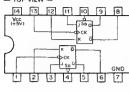


SN74 LSO8 N (TI)
TTL 2-INPUT POSITIVE-AND GATE
— TOP VIEW —



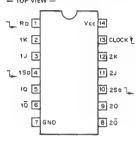


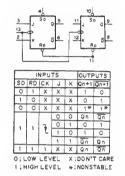
SN74LS113AN (TI) SN74S113N (TI) TTL J-K FLIP FLOP WITH DIRECT SET — TOP VIEW —



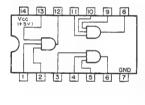
Sø	СК	J	K	Qn+1	Qn+1
0	Х	Х	Х	1	_ 0
1	1	0	0	Qn	Qñ
1	1	0	1	0	1
1	7	+	0	1	0
1	1	1	1	Qn	Qn
1	1	X	X	Qn	Qn

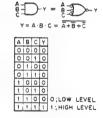
SN74LS114AN (TI)
TTL J-K FLIP-FLOP WITH DIRECT SET/RESET
TOP VIEW



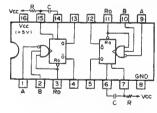


SN74 LS1 1 N (TI)
TTL 3-INPUT POSITIVE-AND GATE
TOP VIEW —

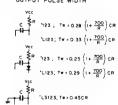


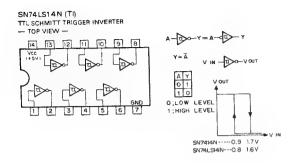


SN74LS123N (TI)
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
— TOP VIEW —

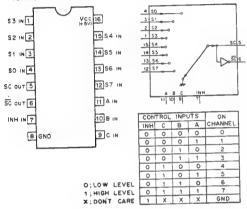




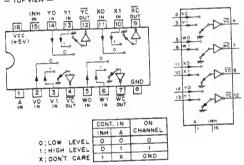




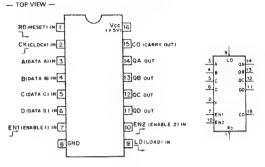




SN74LS158N (TI)
TTL 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER
— TOP VIEW —



SN74LS161 AN (TI) TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER — TOP VIEW —



CON	TROL	INP	UTS	MODE
RD	LD	EN1	EN2	MODE
0	×	×	х	RESET (ASYNCHRONOUS)
1	0	×	х	PRESET (SYNCHRONOUS)
1	. 1	10	Х	NO COUNT
1	1	X	Ō	NO COUNT
1	1	1 1	1 1	COUNT

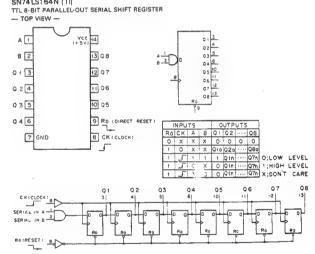
C;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

CARRY OUTPUT "CC"

CO IS HIGH WHEN ENZ INPUT IS HIGH AND COUNT IS "15".

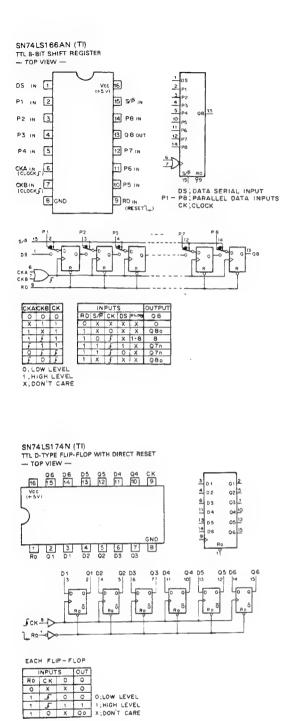
COUNT SE	QUEN	CE		
COUNT		OUTF	UTS	
COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	- 1
2	0	0	1	0
3	0	0	1	
4	0	1	0	0
5	0	1	0	. 1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	- 1
10	1	0	1	0
11	1	0	1	1
12	1_1_	1	0	0
13	1	1	0	1
14	1	1	-1	0
15	1	1	1	1

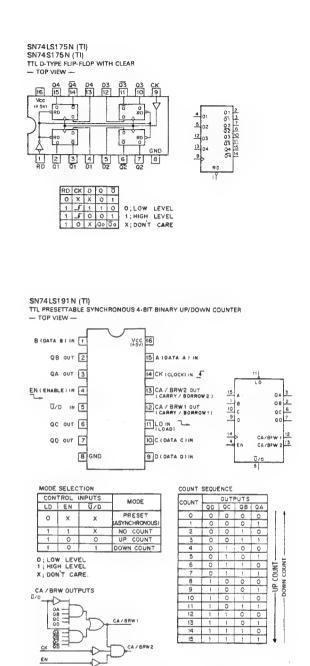
SN74LS164N (TI)





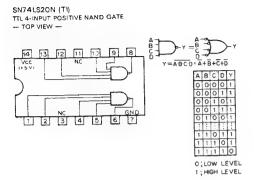


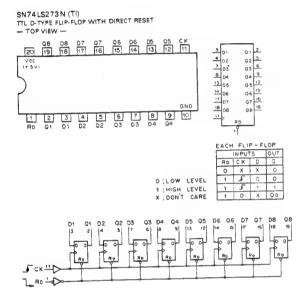


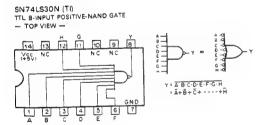


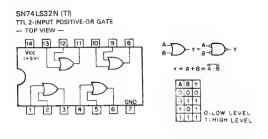
CA/BRW1 OUTPUT IS HIGH WHEN COUNT IS "15" AT UP-COUNT OR WHEN COUNT IS "0" AT DOWN COUNT.

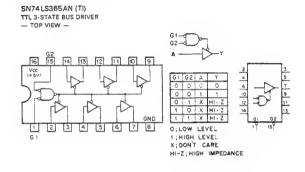
CA/BRW2 OUTPUT IS LOW WHEN BOTH THE CLOCK AND EN INPUTS ARE LOW AND CA/BRW1 OUTPUT IS HIGH.

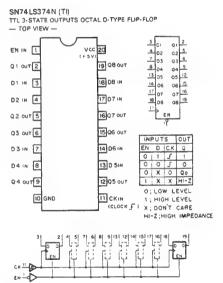


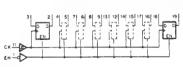


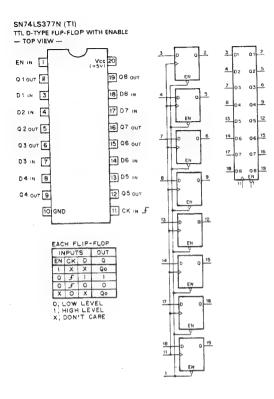


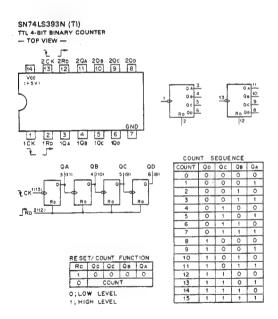


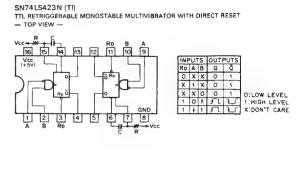


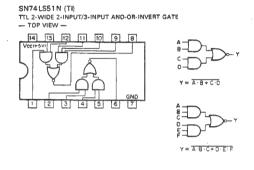


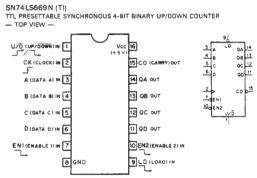


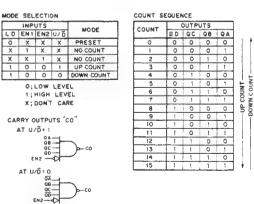






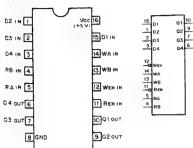


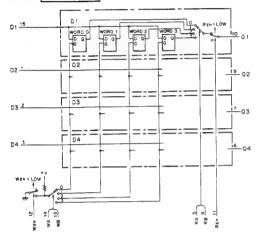




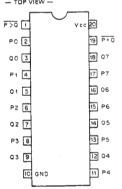








SN74LS684N (TI) TTL 8-BIT MAGNITUDE COMPARATOR -- TOP VIEW --

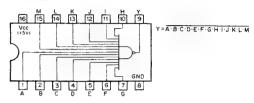


2 4 6 8 11	PO P1 P2 P3 P4		
15	P6 97	P10	19
5 7 9	00 01 02 03	P>O	
16 18	95 96 97		

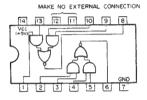
DATA	INPUTS	OUTI	PUTS
PO - P7	QO-Q7	P=Q	P>0
ρ	= Q	0	1
P	>Q	,	0
P	<q< td=""><td>1</td><td>1</td></q<>	1	1
-			

1; HIGH LEVEL 0; LOW LEVEL

SN74S133N (TI) TTL 13-INPUT NAND GATE — TOP VIEW —

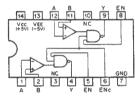


SN74S51N (TI)
TTL 2-WIDE 2-INPUT AND-OR-INVERT GATE
— TOP VIEW —





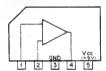
SN75207BN (T() BIPOLAR LINE RECEIVER (TTL COMPATIBLE) — TOP VIEW —



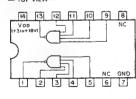
			,
INPUTS	<u> </u>		OUT
8 - A	EN	ENc	Y
	X	0	1
B - A ≧ 10 m V	0	X	1
	1	1	0
	X	0	1
8-A <10mV	0	X	1
	1	1	ж
B - A ≦ -10m ∨	X	X	1

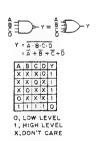
O ; LOW LEVEL 1; HIGH LEVEL X; DON'T CARE X; INDETERMINATE

TA7060AP (TOSHIBA) - SIDE VIEW -



TC4012BP:(TOSHIBA) C-MOS 4-INPUT NAND GATE — TOP VIEW —

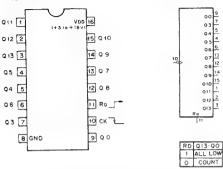






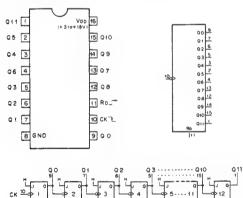






16382 4FFF		1017	[618	IAR	0	UTI	PUTS	5						
1 0001 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ÇÜL	ואכ	Q13	Q12	Q11	Q10	09	Qе	07	0,6	Q5	04	03	00]	
2 0002	0	0000	0	0	Q	0	0	0	0	0	0	0	0	0	Ī	
16380 AFFC 1 1 1 1 1 1 1 1 1	1	0001	0	0	0	0	0	0	0	0	1.0	0	0	1		
A OOO 4 O O O O O O O O	2	0002	0	0	0	0	0	0	0	0	0	0	0	0		
16380 4FFC	3	0003	0	0	0	0	0	0	0	0	0	0	0	1		
163804FFC 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1	4	0004	0	0	0	0	0	0	0	0	0	0	0	0	Ī	
16382 4FFF 1 1 1 1 1 1 1 1 1	1			-	;	1	1		1		1	1	1	1		
16382 4FFE 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1	16380	4FFC	1	1	1	1	1	1	1	1	1	1	1	0	1	
163834FFF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	16381	4FFD	1	1	1	1	1	1	1.	1	1	1	j 1	1]	
O; LOW LEVEL 1; HIGH LEVEL 00 03 012	16382	4FFE	1	1	1	1	1	1	1	1	1	1	1	0		
1) HIGH LEVEL 00 03 012	16383	4FFF	1	1	1	1	1	- 3	- 1	- 1	1	1	1	1	1	
الم	1		ECIM)МА											
			00								Q3				012	
	10	4. 0	9 ,	47	9	م "	J	٥-	4	J Q	n (m 			n') . c	, 0
		TK Ro	١,			, H	R	<u>ا</u>	μΠ	- FID	J	ÄL,	1		7 100	Ro
	Rp '		-		-	_	-			-		_	_	_		

TC4040BP (TOSHIBA) C-MOS 12-STAGE RIPPLE CARRY BINARY COUNTER/DRIVER — TOP VIEW —

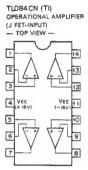


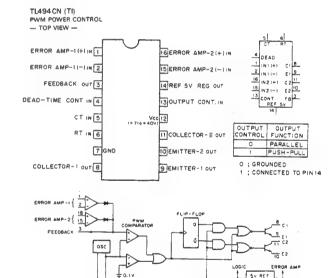
R	آلہ:		H	K RO		μ̈́	K Ro] 	H K		Ľ	K.	-1-		K Ro
_	COUNT	011	010	09	08	107	06	05	04	03	'02	io i	00	RD	01100
ı	0	0	0	0	0	0	0	0	0	0	0	0	0	. 1	ALL LOW
	1	0	0	0	0	0	0	0	0	0	0	0	1	0	COUNT

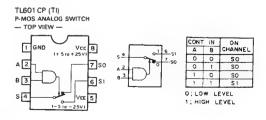
0	0	0	0	0	0	0	0	0	0	0	0	0	1 ALL LOW
1	0	0	0	0	0	0	0	0	0	0	0	1	O COUNT
2	0	0	0	0	0	0	0	0	0	0	1	0	
3	0	0	0	0	0	0	0	0	0	0	1	1	
-;	1	1	1	1	1	1	i :	1	1	1 :	1		
-	1		Н.			1	1 :	1	1	1:	1		O; LOW LEVEL
4095	. 1	1	1	1	1	1	1	1	1	1 1	1	1	1; HIGH LEVEL

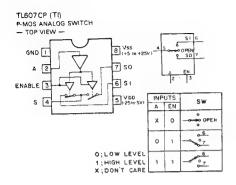
TL082CP (TI)
uPC4082C (NEC)
OPERATIONAL AMPLIFIER
(J FET-INPUT)
— TOP VIEW —











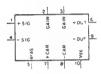
TL710CP (TI)
VOLTAGE COMPARATOR - TOP VIEW -



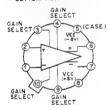
MC14966 (MOTOROLA) UA796HC (FSC) DOUBLE-BALANCED MOD/DEMOD. - BOTTOM VIEW -

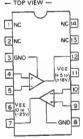


+SIGNAL INPUT
GAIN ADJUST
GAIN ADJUST
- SIGNAL INPUT BIAS
+OUTPUT
+CARRIER INPUT
-CARRIER INPUT
-OUTPUT IO VEE

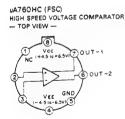


UA733HC (FSC)
DIFFERENTIAL VIDEO AMPLIFIER
- BOTTOM VIEW -



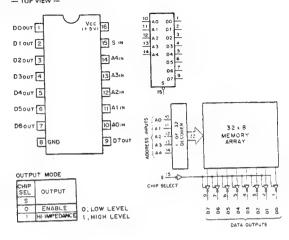








MB7051 (FUJITSU) 256-BIT (32x8) PROM (3-STATE OUTPUT) - TOP VIEW -

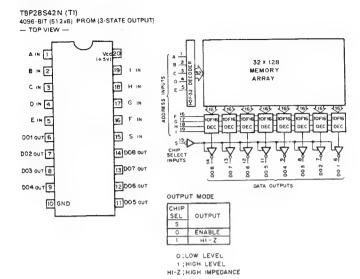


WORE	/ADI	DRE	5 5	TAB	LE.			DATA	co
wo	-	ADD	RES	55 11	VPU	TS		DA1	ΓA
WU	RU	Δ4	Α3	AZ	A1	AO		COL	DE
0	00	0	0	0	0	0		0	00
- 1	01	0	0	0	0	1.1		1	0
1	-:-	1	1	- 1	-			- 1	-{
9	09	0	1	0	0	1		9	0 9
10	QA	0	ı	0	1	Q	İ	10	0/
11	ОВ	0	1	0	1	1		11	0 8
12	ОС	0	1	1	0	0		12	00
13	00	0	1	1	0	1		13	00
14	OE	0	1	1	1	0]	14	01
15	OF	0	1	-1	1	1]	15	Of
16	10	1	0	0	0	0]	16	10
-		11		1		1]	- :	- 1
30	16	1	1	1	1	0.	1		1
31	1F	1	1	1	1	11]		1
-	K	IN	HEX	ADE	CIN	IAL	•	254	F
\	-IN E	DECI						255	FI
								1	

DA.	TA	ACTUAL DATA								
co	DE	07	06	D5	D4	D3	D2	Df	DC	
0	00	0	0	0	0	0	0	0	0	
1	01	0	0	0	0	0	0	0	1	
- 5		1					1			
9	09	0	0	0	0	1	0	0	1	
10	Q A	0	0	0	0	1	0	t	0	
11	08	0	0	0	0	1	0	1	1	
12	OC	0	0	0	0	1	1	0	0	
13	00	0	0	0	0	1	1	0	1	
14	OE	0	0	0	0	1	. 1	1	0	
15	OF	0	0	0	0	1	1	1	11	
16	10	0	0	0	1	0	0	0	0	
-		III		1	1	1	1		11	
- 1	1		11	1	1	П	1		U	
	1	11	11	1	1.1	TT.			IΤ	
254	FE	1	1	1	1	1	1	1	0	
255	FF	1	1	1	1	1	1	1	1.1	
-	-	-1N	HE	KADI	ECH	AAL				

MB7051-YCDL2 PROGRAMED DATA

WORD DATA OUTPUTS (IN HEXADECIMAL) (ADDRESS) 0 - 15



TBP28S42N-CADR PROGRAMMED DATA

WORD (ADDRESS)	DATA OUTPUTS (IN HEXADECIMAL)
	DATA OUTPUTS (IN HEXADECIMAL) 0.0.01.02.03.04.05.06.07.08.09.0A.08.0C.0D.0E.0F. 10.11.12.13.14.15.16.17.18.19.1A.18.1C.1D.1E.1F. 21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.38.3C.3D.3E.3F.20. 20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.38.3C.3D.3E.3F.20. 21.22.33.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 20.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3E.3F.20. 20.01.02.03.04.05.06.07.08.09.0A.0B.0C.0D.0E.0F. 21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3B.3F.20. 21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3B.3F.20. 21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3B.3F.20. 22.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3B.3F.20. 22.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30. 31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3B.3F.20. 22.21.22.23.24.25.26.27.28.29.2A.2B.2C.2D.2E.2F.30.31.32.33.34.35.36.37.38.39.3A.3B.3C.3D.3B.3F.20.
352 - 367 368 - 383 384 - 399 400 - 415	21, 22, 23, 24, 25, 26, 27, 28, 29, 2A, 2B, 2C, 2D, 2E, 2F, 30, 21, 31, 32, 33, 34, 35, 36, 37, 38, 39, 3A, 3B, 3C, 3D, 3E, 3F, 20, 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D, 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B, 1C, 1D, 1E, 1F, 1B, 1B, 1C, 1D, 1E, 1F, 1D, 1B, 1B, 1C, 1D, 1B, 1B, 1B, 1B, 1B, 1B, 1B, 1B, 1B, 1B
416 - 431 432 - 447 448 - 463 464 - 479 480 - 495 496 - 511	00 01 02 03 04 05 06 07 08 09 0A 08 0C 0D 0E 0F 10 11 10 11 12 13 14 15 16 17 18 19 1A 18 19 1A 18 1C 1D 1E 1F 20 21 22 23 24 25 26 27 28 29 2A 28 2C 2D 2E 2F 20 23 23 34 35 36 37 36 38 39 3A 38 3C 2D 2E 2F 20 2C

WORD/ADDRESS TABLE

			ΑD	DR	ES	Ş١	NΡ	ÚŤ	
WORD		н	G	F	Ε	0	С	В	Α
0	0	0	0	0	0	0	0	0	0
- 1	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	1	0
			1:	:		:	1		
		١.	i i	1	1		1		1
	١.	1	, :	Ŀ	į.			ŀ	_
509	1	1	11	11	1	1	1	10	1
510	1	11	1	1	1	1	1	1	0
511	1	1	1	1	1	1	1	1	1

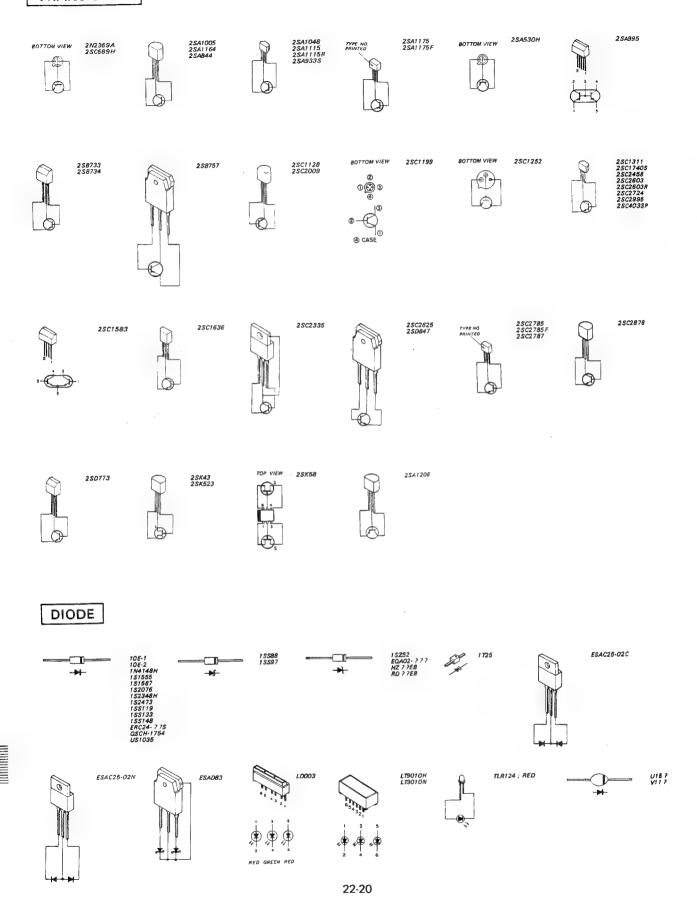
O; LOW LEVEL

DA	TA			AS	TUAL	DAT			
COI		800	007	006	005	004	D03	DOS	_
0	00	0	0	0	0	0	0	0	0
1	01	0	0	0	0	0	0	0	1
2	02	0	0	0	0	0	0	1	0
- 1					- 1		-		-
8	08	0	0	0	0	1	0	0	0
9	09	0	0	0	0	1	0	0	1
10	OA	0	0	0	0	1	0	1	0
11	08	0	0	0	0		0	1	1
12	O.C.	0	0	0	0	1	1	0	0
13	OD	0	0	0	0	1	1	0	1
14	ΟE	0	0	0	0	1	1	1	0
15	OF	0	0	0	0	1	1	1 1	1
16	10	0	0	0	1	0	0	0	0
17	11	0	0	0	1	0	0	0	1
- :				1				1 :	1
238	EΕ		1	1	0	1	1	1	0
239	EF	ì	1 1	1	0	1	1	1	1
240	FO	1	1		1 1	0	0	0	0
241	F1	1	1	1	1	0	0	0	1
242	F2	1	, 1	1	1	0	0	1.	0
	1		1 :		1 :	1 3	<u> </u>	11	
24B	F 8	1	1	1	1	1	0	0	0
249	F 9	1	1	1	1	1	0	0	1
250	FA		1	1	1 1	1	0	1	0
251	FB	1	1	1	1	1	0	1_	1
252	FC	1	1	j. 1	1	1	1	0	0
253	FO	1	1 1	1	1 1	\Box	1	0	1
254		1	1	1	1	1	11	1	: 0
	FF	1	1 1	1	1	1	1 1	1	1

TBP28S42N YADR

WORD (ADDRESS)	DATA QUIPUTS (IN HEXADECIMAL)
1 AUUNESSI 0 - 16 16 - 31 32 - 47 48 - 63 64 - 79 80 - 95 98 - 11 112 - 127 128 - 143 144 - 159 160 - 115 176 - 191 192 - 207 208 - 223 224 - 229 240 - 255 256 - 271 277 - 287 288 - 303 304 - 319 320 - 335 336 - 351 336 - 351 336 - 351 352 - 367 368 - 382 400 - 415 416 - 431	D. E. F 00 01 02 03 04 05 08 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 13 14 15 18 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 18 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 18 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 0D 0D 0E 0F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 10 11 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 10 11 13 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 10 1
432 - 447 448 - 463	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F.
464 - 479 480 - 495	10.11.12.13.14.15.16.17.18.19.1A.1B.1C.1D.1E.1F. 00.01.02.03.04.05.06.07.08.09.DA.0B.0C.0D.0E.0F.
496 - 511	10.11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B, 1C, 1D, 1E, 1F,

TRANSISTOR



SECTION 23 SCHEMATIC DIAGRAMS

PRINTED CIRCUIT BOARDS

The circuit information is provided below.

CIRCUIT FUNCTION	PAGE
CLOCK GENERATOR	23-33
RELAY BOARD	23-79
POWER SUPPLY CONTROL	23-68
DISPLAY	23-64
VIDEO AMPLIFIER	23-61
MOTHER BOARD	23-74
NOISE REDUCER	23-48
PROCESSOR	23-20
POWER SUPPLY	23-68
PAL SYNC GENERATOR	23-4
	CLOCK GENERATOR RELAY BOARD POWER SUPPLY CONTROL DISPLAY VIDEO AMPLIFIER MOTHER BOARD NOISE REDUCER PROCESSOR POWER SUPPLY

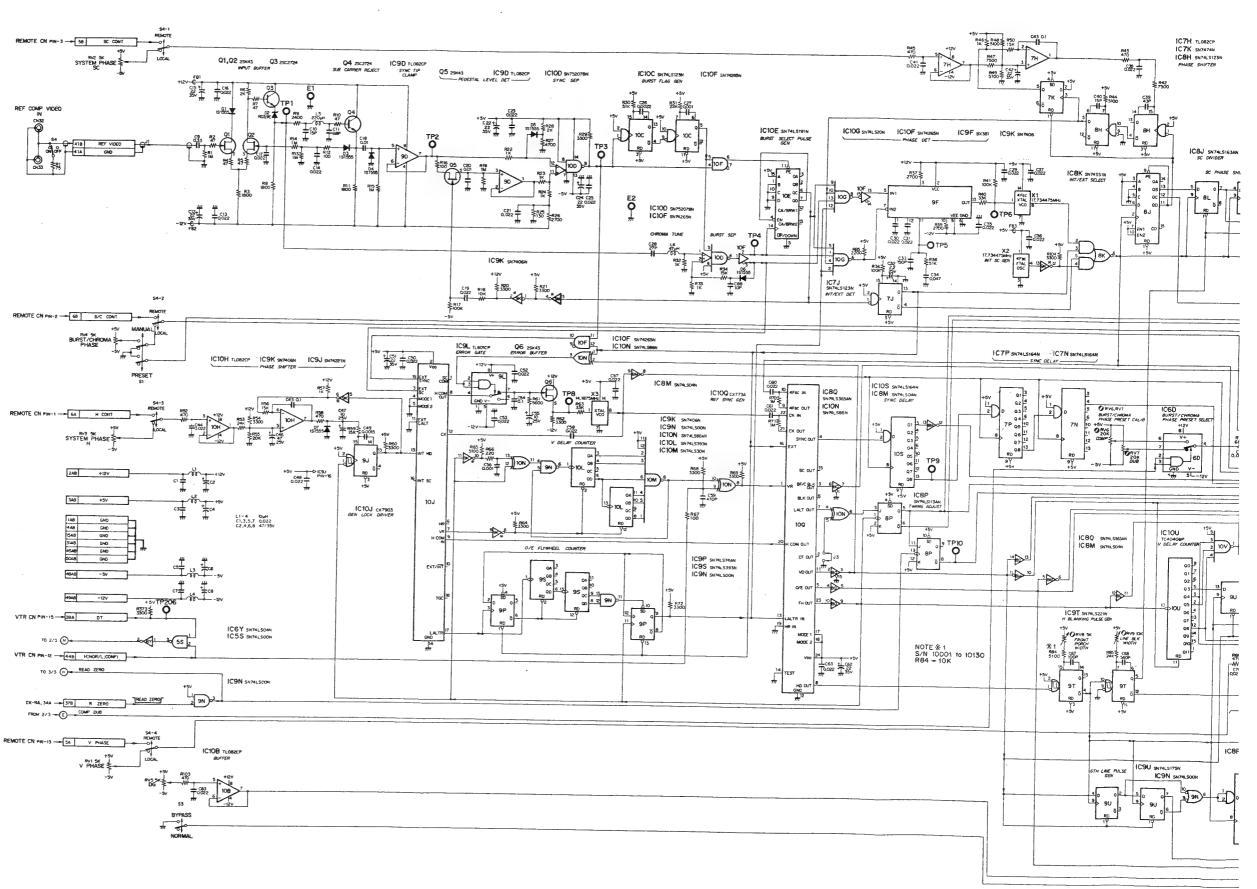
23-2

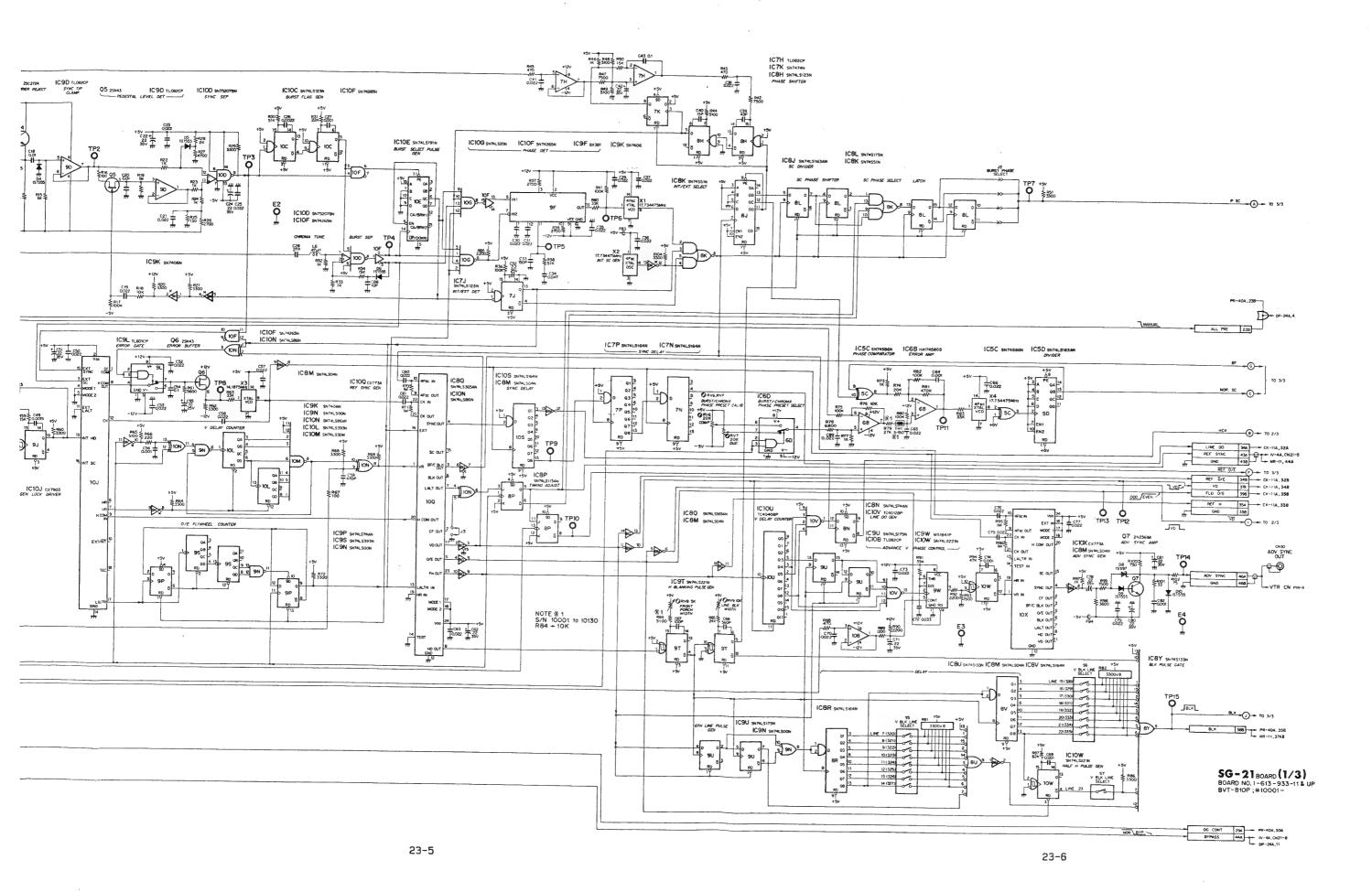
1 SG-21 BOARD (1/3); PAL SYNC GEN

Reference Sync Generator
Advanced Sync Generator
Blanking Pulse Generator
Line DO Pulse Generator
Proc SC Generator
Burst/Chroma Phase Control
SC Phase Control
System Phase Control
V Phase Control

Ref.		No.	Ref.		η No.	Ref.	Pin	No.
No.	+5V	GND	No.	+51	GNE	No.	+5V	GNT
IC1A	14	7	IC4S	1	*	IC8J	16	8
IC1B	16	8	IC4U	14	7	IC8K	14	7
IC1C	1	ķ.	IC4W		*	1C8L	16	8
IC1F		k	IC4X	1.16	8	IC8M	14	7
IC1L		k	IC4Z		*	IC8N	14	7
IC1P	1	k	IC5A	14	7	ICBP	14	7
KIR	1 1	k	ICSC	14	7	IC8Q	16	8
IC1S	1	k	ICSD	16	8	IC8R	14	7
KIW	4	t	IC5F	\Box	*	IC8U	16	8
ICIZ	-	-	IC5K		*	IC8V	14	7
IC2B	14	7	IC5P	14	7	IC8Y	16	8
IC2C	1		IC5Q	14	7	IC8Z	16	8
IC2F	1.16	8	ICSS	14	7	IC9D	3	k
IC2H	- 1		₩C5U	14	7	IC9F	1	k
IC2R			ICSW	14	7	IC9J	16	8
IC2S	*		ICSX	14	7	IC9K	14	7
IC2T		:	IC5Y	16	8	IC9L	- 1	
IC2U		:	IC6B		*	IC9N	14	7
IC2X		:	IC6D	1 :	*	IC9P	14	7.
IC2Z	*		IC6E	14	7	IC9S	14	7
JC3A	14	7	IC6F	16	8	IC9T	16	8
IC3B	14	7	IC6P	16	8	IC9U	16	8
IC3C	14	7	IC6Q	16	8	IC9W	*	:
IC3E	*		IC6S	14	7	IC10B		
IC3G	1.16	8	IC6U	16	8	IC10C	16	8
IC3K	*		IC6W	16	8	IC10D	*	:
IC3.M	*	- 1	106X	16	8	ICHOE	16	8
IC3N	*	٠ ا	IC6Y	. 14	7	IC10F	16	8
IC3R	*	- 1	IC7H	,	k	IC10G	14	7
IC3U	*		IC7J	16	8	IC10H	*	
IC3W	*	Т	IC7K	14	7	IC10J	2	14
IC3X	*		IC7N	14	7	IC10L	14	7
IC4B	14	7	IC7P	14	7	IC10M	14	7
IC4C	16	8	IC7Q	16	8	IC10N	14	7
IC4D	*		IC7S	14	-7	IC10Q	24	12
IC4G	*		IC7U	14	7	1C10S	14	7
IC4K	*		IC7W	16	8	IC10U	16	8
IC4.M	1.16	8	IC7X	14	7	IC10V	14	7
IC4P	*		IC7Y	16	8	IC10W	16	8
IC4R	*	ì	IC8H	16	8	ICTOX	24	12

NOTE:		
MARK	CHANGE INFORMATION	SERIAL NO.
※ 1	R79 33K → 27K ADDED	11201
	TH1 S-150	



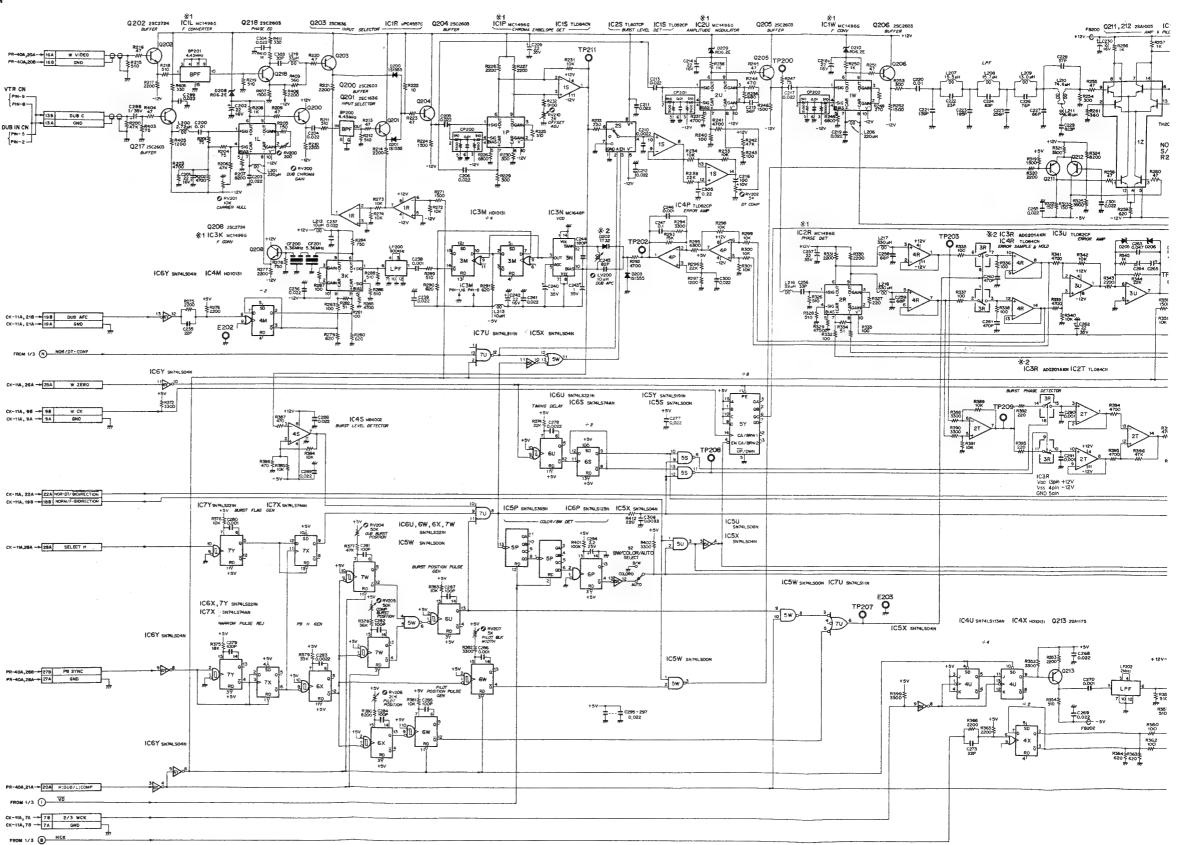


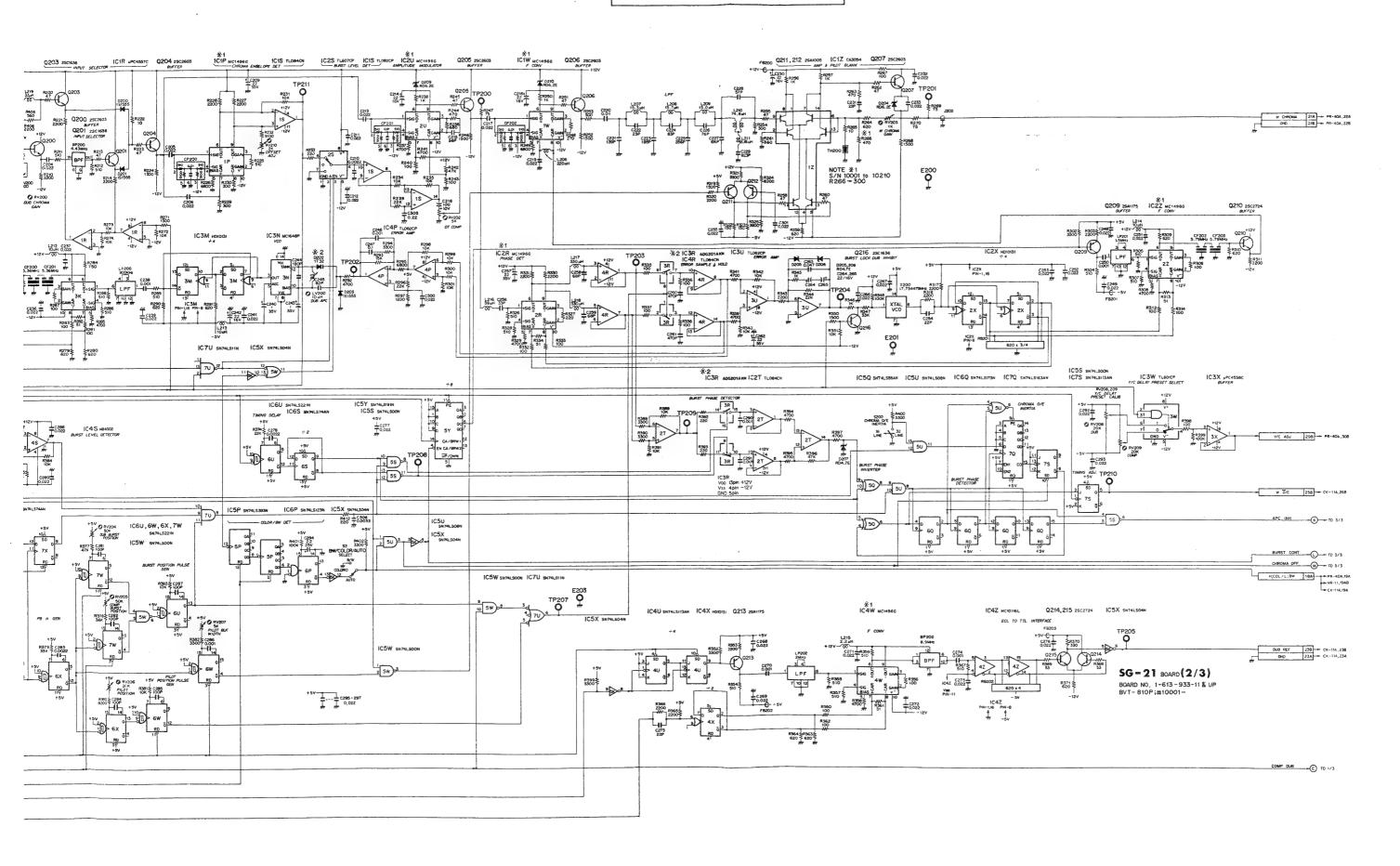
1 SG-21 BOARD (2/3); PAL SYNC GEN

Chroma Separator (for COMP)
Chroma Frequency Up Converter (for DUB)
Chroma Frequency Down Converter
Color/BW Detector
Write Odd/Even Pulse Generator

Ref.	Pin	No.	Ref.	Pin	No.	Ref .	Pin	No.
No.		GND	No.	+5V	GND	No.	+5V	GNE
IC1A	14	7	IC4S	,	ķ.	IC8J	16	8
IC1B	16	8	IC4U	14	7	IC8K	14	7
IC1C	3	t	IC4W	3	k	IC8L	16	8
IC1F	1 1	k	IC4X	1.16	8	IC8M	14	7
IC1L	, ×	k	IC4Z	,	k	IC8N	_14	7
IC1P	*	k.	IC5A	14	7	IC8P	14	7
IC1R	1 3	E I	IC5C	14	7	IC8Q	16	8
IC1S	*	k	IC5D	16	8	IC8R	14	7
IC1W	1 4	k .	IC5F		k	IC8U -	16	8
IC1Z	-	-	IC5K		k	IC8V	14	7
IC2B	14	7	IC5P	14	7	IC8Y	16	8
IC2C	3	k	IC5Q	14	7	IC82	16	8
IC2F	1, 16	8	ICSS	14	7	IC9D	,	k
IC2H	3	k	IC5U	14	7	IC9F	*	k
IC2R		k	IC5W	14	7	IC9J	16	8
IC2S	2	k	IC5X	14	7	IC9K	14	7
IC2T	×	ķ.	IC5Y	16	8	IC9L		ķ
IC2U	*		IC6B	1	k	IC9N	14	7
IC2X	*		IC6D	1 2	k	IC9P	14	7
IC2Z	1 ×	k i	IC6E	14	7	1C9S	14	7
ІСЗА	14	7	IC6F	16	8	IC9T	16	8
IC3B	14	7	IC6P	16	8	IC9U	16	8
IC3C	14	7	IC6Q	16	8	IC9W	1	
IC3E	- 2		IC6S	14	7	IC10B	- >	
IC3G	1.16	8	IC6U	16	8	IC10C	16	8
IC3K	3	k	IC6W	16	8	IC10D	,	k
IC3M	1	k	IC6X	16	8	IC10E	16	8
IC3N	*	k '	IC6Y	14	7_	IC10F	16	8
IC3R	>	k	IC7H	,	k ;	IC10G	14	7
IC3U	1	k	IC7J	16	8	IC10H		
IC3W.	1	ķ ·	IC7K	14	7	IC10J	2	14
Юзх	2	k	IC7N	14	7	IC10L	14	7
IC4B	14	7	IC7P	14	7	IC10M	14	7
IC4C	16	8	IC7Q	16	8	IC10N	14	7
IC4D	2	k	IC7S	14	7	IC10Q	24	12
IC4G	*	k	IC7U	14	7	1C10S	14	7
IC4K	>		IC7W	16	8	IC10U	16	8
IC4M	1, 16	8	IC7X	14	7	IC10V	14	7
IC4P	3	K	IC7Y	16	8	IC10W	16	8
IC4R	1 2	k i	IC8H	16	8	IC10X	24	12

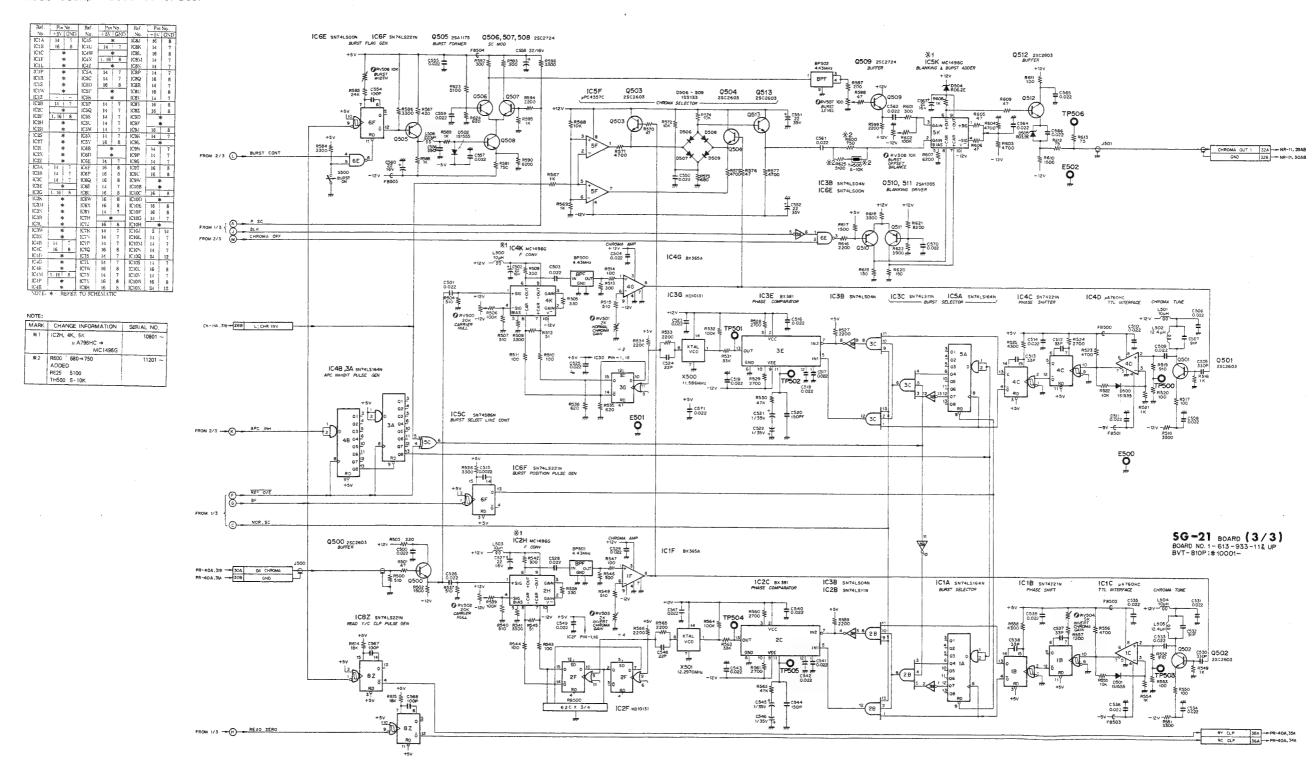
MARK	CHANGE INFORMATION	SERIAL NO.
% 1	ICIL. IP, IW, 2R, 2U. 2Z, 3K, 4W µA796HC → MC1496G	10801 ~
* 2	D202 1T25 → 1T32 IC3R HI1-0201-5 → ADG201AKN	16301 ~





1 SG-21 BOARD (3/3); PAL SYNC GEN

Chroma Frequency Up Converter Chroma Blanking/Burst Adder Read Clamp Pulse Generator



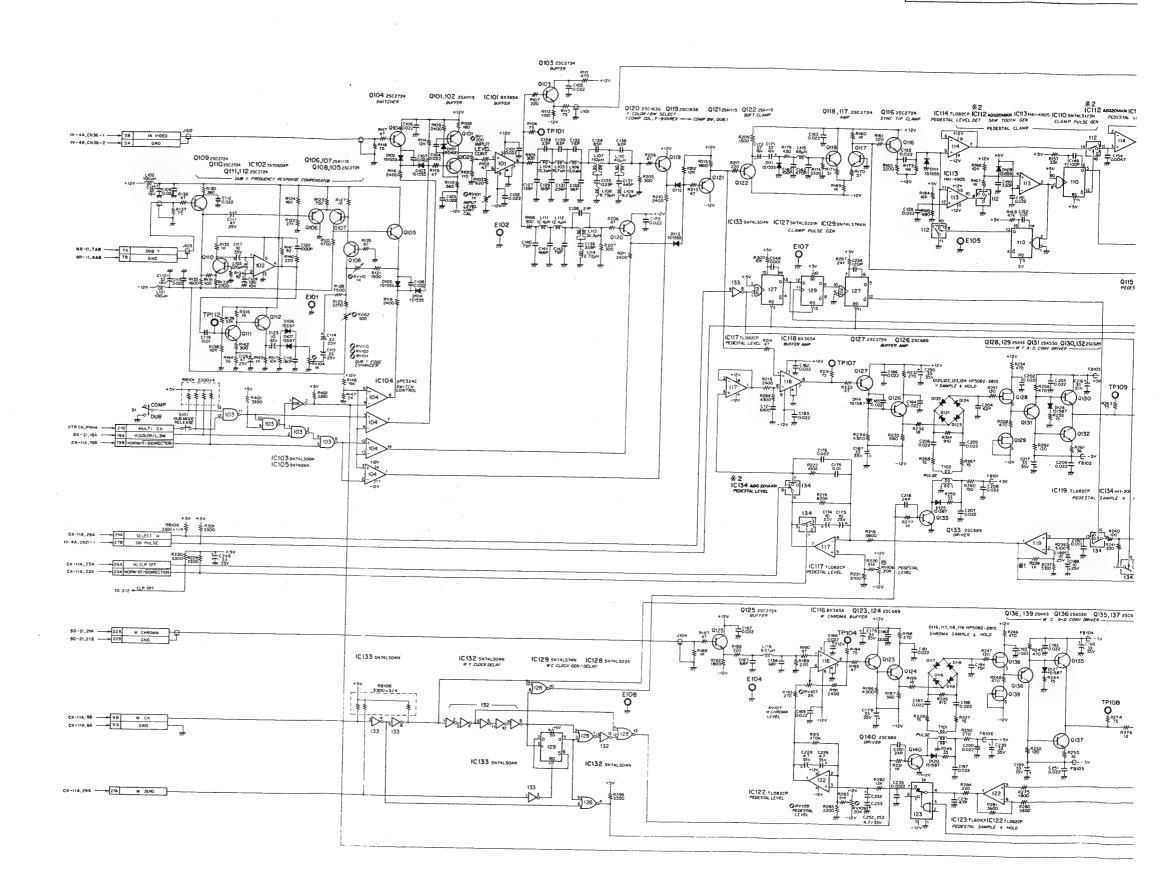
		· .
		•.

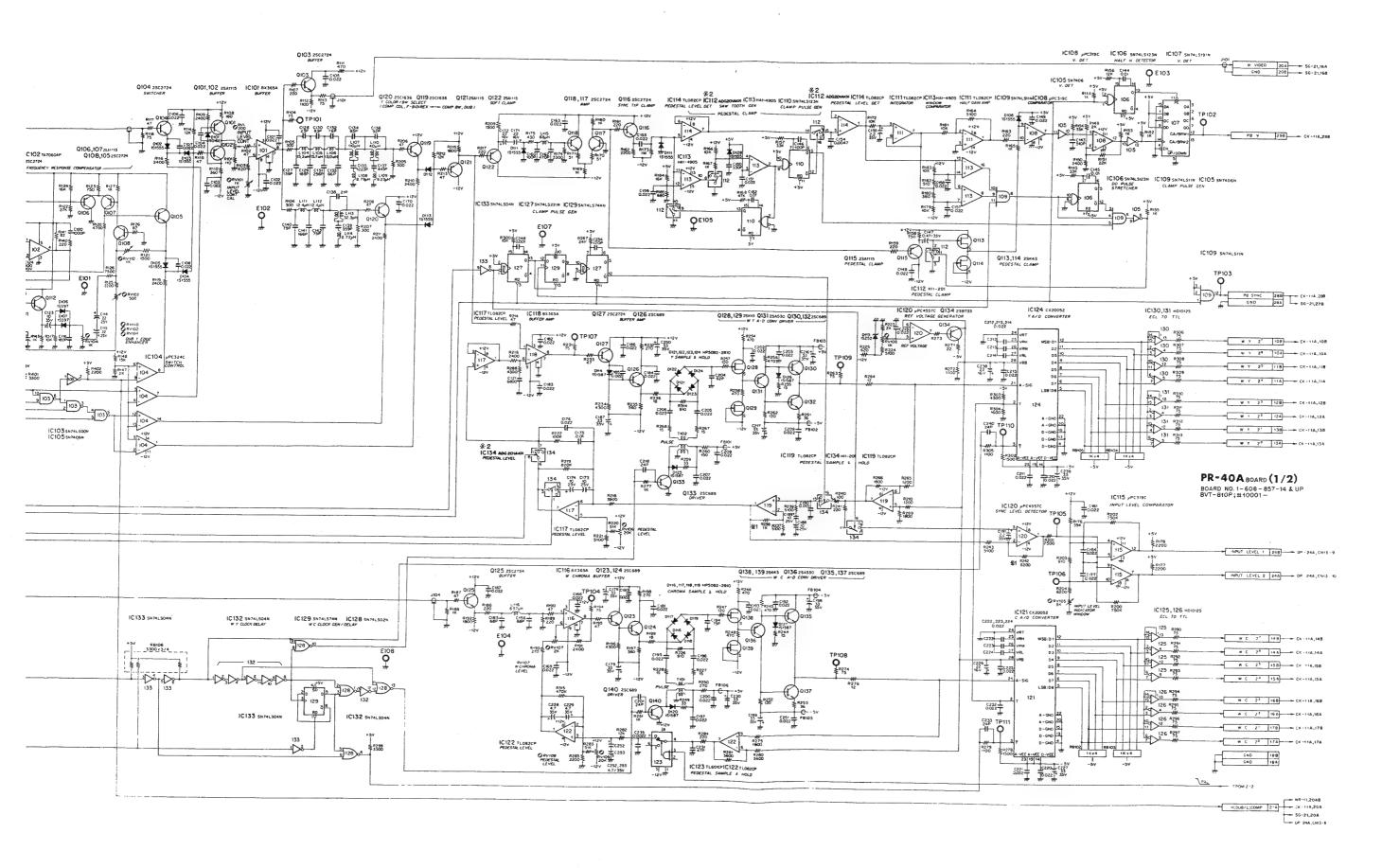
2 PR-40A BOARD (1/2); PROCESSOR

DUB Y Edge Enhancer
Input Level Control
Y Color/BW Select
PB V, PB Sync Generator
Y A-D Converter
Input Level Detector
C A-D Converter

<u> </u>							
Ref.	Туре	+ 19	V +5	Pin N V GN	lo. D −5	V -1	27.7
IC1	μ PC324C	4	V 1+0	V GN	7 - 2	V -1	
IC101	BX365A	3	1	4,1	7	1 3	
IC102	TA7060AP	1	Refer	to	achema	1 .	
IC103	SN74LS00N		14	7		1	
IC104	μ PC324C	4	1-			11	Ц
IC105	SN7406N		14	7	-		١
IC106 IC107	SN74LS123N SN74LS191N	1	16			ļ	
IC108	# PC319C	11	16	3, 8	,	6	. !
IC109	SN74LS11N	111	14	7	'	, ,	1
IC110	SN74LS123N	+	16	8	+	+-	ᅱ
IC111	TL082CP	8	1	"		4	1
IC112	ADG201 AKN	13		5		4	
IC113	HA1 - 4905	8				4	
IC114	TL082CP	8		1		4	4
IC115	μ PC319C	11		3, 8		6	٦
IC116	BX365A	3		4,7	1	9	Į
IC117	TL082CP	8	Í	1	Į	4	
IC118 IC119	BX365A TL082CP	8	1	4, 7	1	9	1
IC120	μ PC4557C	8	+	+	+-	4	H
IC121	CX20052	1 -	l Refer	to a	: chema:		1
IC122	TL082CP	8		ĩ '		4	١
IC123	TL601CP	8		1	1	5	1
IC124	CX20052	;	Refer	to a	chema	tic	1
IC125	HD10125	Ţ	9	16	8		7
IC126	HD10125	ĺ	9	16	8		ı
IC127	SN74LS221N		16	8	1		1
IC128	SN74LS02N		14	7			1
IC129 IC130	SN74LS74AN HD10125	+	14	16	8	 	4
IC130	HD10125		9	16	8	1	ı
IC132	SN74S04N		14	7	1 °		L
IC133	SN74LS04N		14	7		1	ı
IC134	ADG201AKN	13		5		4	ı
IC501	BX365A	3		4, 7		9	1
IC502	μ PC4557C	8		1		4	ı
IC503	BX365A	3		4, 7	1	9	ı
IC504	CX20051	F	lefer	to s	chemat	ic	ı
IC505 IC506	CA3102E μ PC4557C	1-	 -	 -	-	-	1
IC506 IC507	μ PC4557C	8				4	ı
IC508	TL082CP	8				4	ı
IC509	TL601CP	8		1	[5	l
IC510	TL082CP	8	ļ	1	-	4	ı
IC511	BX365A	3		4,7		9	1
IC512	CX20051	F	efer	•	hemati	ic	1
IC513	TL082CP	8	1	ĺ		4	L
IC514	TL601CP	8		1		5	
IC515	SN74LS273N		20	10			1
IC516	SN74LS04N	8	14	7			
IC517 IC518	μ PC4557C SN74LS86N	8	14	7		4	
IC518 IC519	SN74LS670N		16	8			
IC520	SN74LS163AN		16	8			1
IC521	SN74LS273N		20	10	\vdash		
IC522	HD10116			1, 16	8		
IC523	SN74LS670N		16	8			ı
IC524	SN74LS163AN		16	8			
IC525	SN74LS240N		20	10			ı
IC526	SN74LS04N		14	7			1
IC527	SN74LS374N		20	10			
IC528	SN74LS221N	ا	16	8	. 1		
IC529	MC1496G				hemati	-	
IC530 IC531	MC1496G BX365A	3 R	න්න		hemati	9	
10001	DVOON	ا د		4,7	1	9	

NOTE:		
MARK	CHANGE INFORMATION	SERIAL NO.
Ж١	R238 5100 → IK R242 5100 → 6200	11601 ~
% 2	IC112, 134 HI3-0201-5 → ADG201AKN	16301 ~

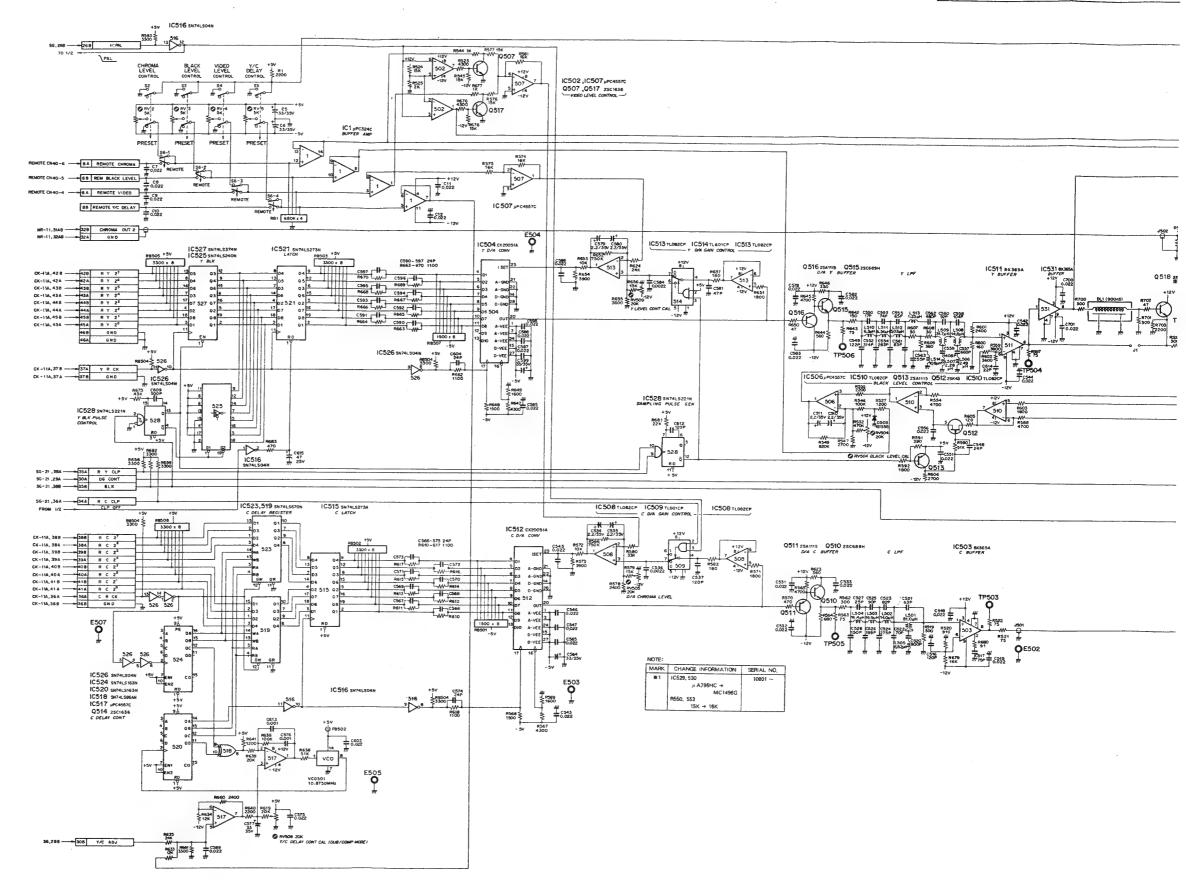


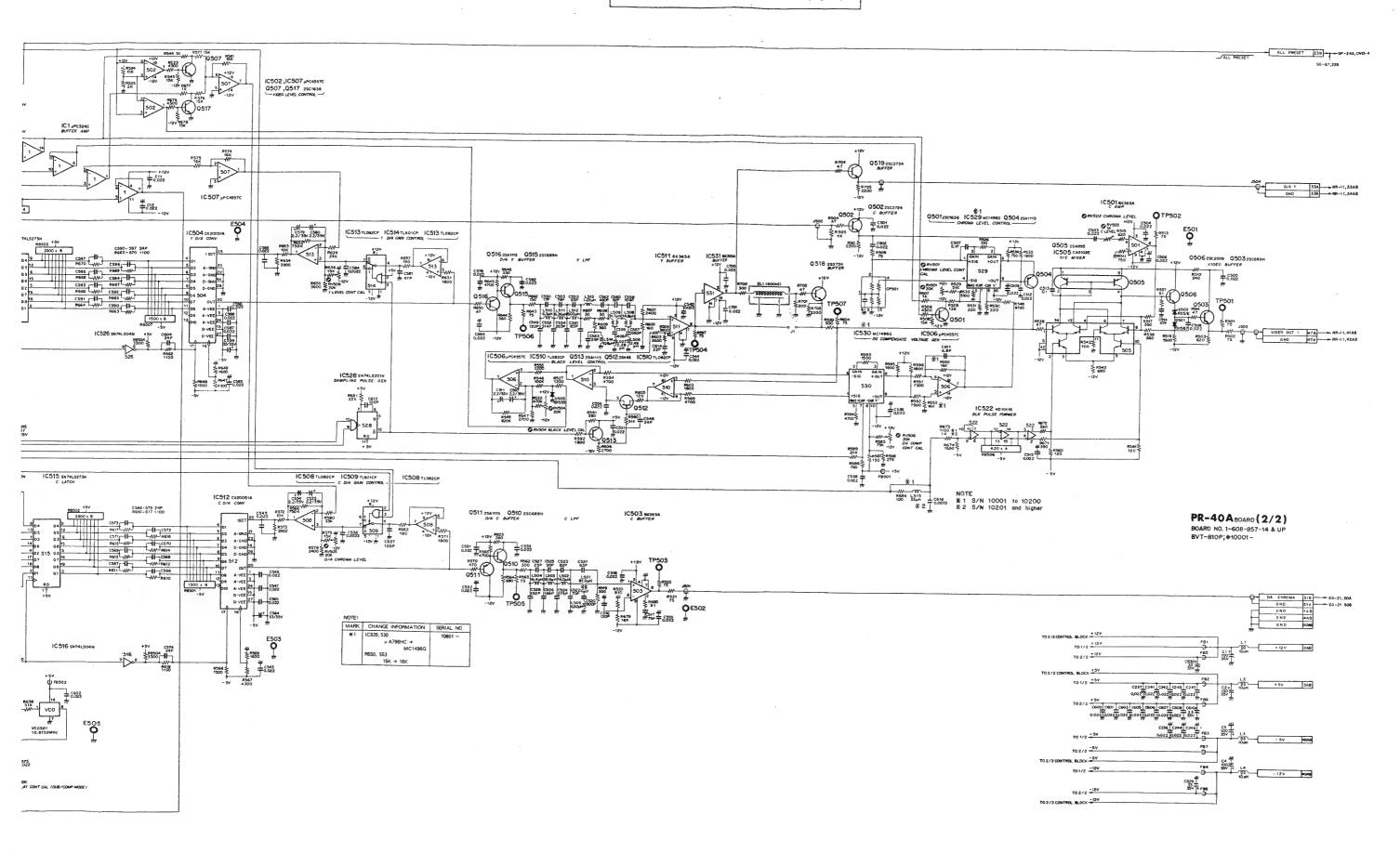


2 PR-40A BOARD (2/2); PROCESSOR

Y D-A Converter C D-A Converter Video, Chroma, Black Level Control Y/C Delay, DG Compensation Control

Ref.	Туре			Pin No		
No-		+12V	+5V	GND	-5V	
IC1	μ PC324C	4				11
IC101	BX365A	. 3	ł	4.7		9
IC102	TA7060AP	F	lefer	to so	hemati	c
IC103	SN74LS00N		14	7		
IC104	μ PC324C	4	1	i	1	11
IC105		,	14	7		
IC106	SN74LS123N	1 *	16	8		
			16	8	1	
IC107	SN74LS191N	1	10			6
IC108	μPC319C	11		3,8		۰
IC109	SN74LS11N	-	14	7	\vdash	
ICI10	SN74LS123N		16	8		١.
IC111	TL082CP	8	1	l	1 1	4
IC112	ADG201AKN	13	l	5		4
IC113	HA1 - 4905	8	1			4
IC114	TL082CP	8		l		4
IC115	μ PC319C	11	1	3,8		6
IC116	BX365A	3	ĺ	4,7		9
IC117	TL082CP	8				4
IC118	BX365A	3		4.7		9
IC119	TL082CP	8			1 1	4
IC120	μ PC4557C	8		-	\vdash	4
	CX20052		i Lefer	to so	l hemati	-
IC121			l I	10 80	i i	
IC122	TL082CP	8				4
IC123	TL601CP	8	1	1	[[5
IC124	CX20052	F			hemati	c
IC125	HD10125		9	16	8	
IC126	HD10125	1	9	16	8	
IC127	SN74LS221N	1	16	8		
IC128	SN74LS02N		14	7		
IC129	SN74LS74AN		14	7		
IC130	HD10125		9	16	8	
IC131	HD10125		-9	16	8	
IC132	SN74S04N	1	14	7		
IC133	SN74LS04N	1	14	7		
	ADG201 AKN	13	1 1 4	5		4
IC134	BX365A	8	_	4, 7		9
IC501		8	i	4, 1		4
IC502	μ PC4557C	3		. 7		9
IC503	BX365A			4,7	l	_
IC504	CX20061	1 1	efer	to so	hemati	С
IC505	CA3102E	1-		-		
IC506	μ PC4557C	8				4
IC507	μ PC4557C	8	l		1 1	4
IC508	TL082CP	.8				4
IC509	TL601CP	8		1		5
IC510	TL082CP	8				4
IC511	BX365A	3		4, 7		9
IC512	CX20051	F	efer	to sc	hemati	С
IC513	TL082CP	8			1 1	4
IC514	TL601CP	8		1		5
IC515	SN74LS273N	1	20	10		-
IC516	SN74LS04N	1	14	7	\vdash	
IC517	# PC4557C	8				4
IC518	SN74LS86N	"	14	7		7
			16	8		
IC519	SN74LS670N			-	1 1	
IC520	SN74LS163AN	+	16	8		
IC521	SN74LS273N		20	10	_	
IC522	HD10116			1, 16	8	
IC523	SN74LS670N		16	8		
IC524	SN74LS163AN		16	8		
IC525	SN74LS240N		20	10	1	
IC526	SN74LS04N		14	7	П	_
IC526 IC527	SN74LS374N		20	10		
			16	8		
	SN74LS221N	1		-		
IC528	3.404.4000					
IC528 IC529 IC530	MC1496G MC1496G				hemati hemati	





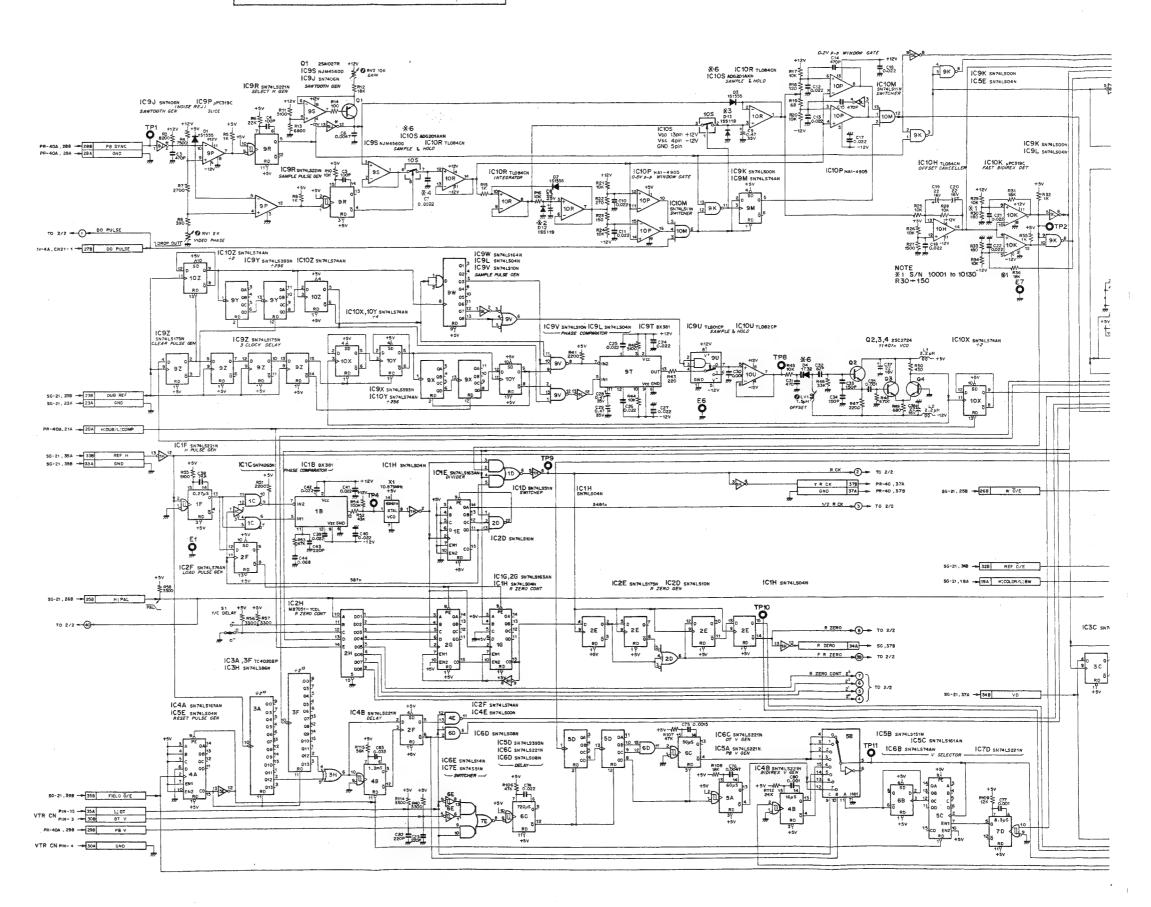
CK-11A (1/2) CK-11A (1/2)

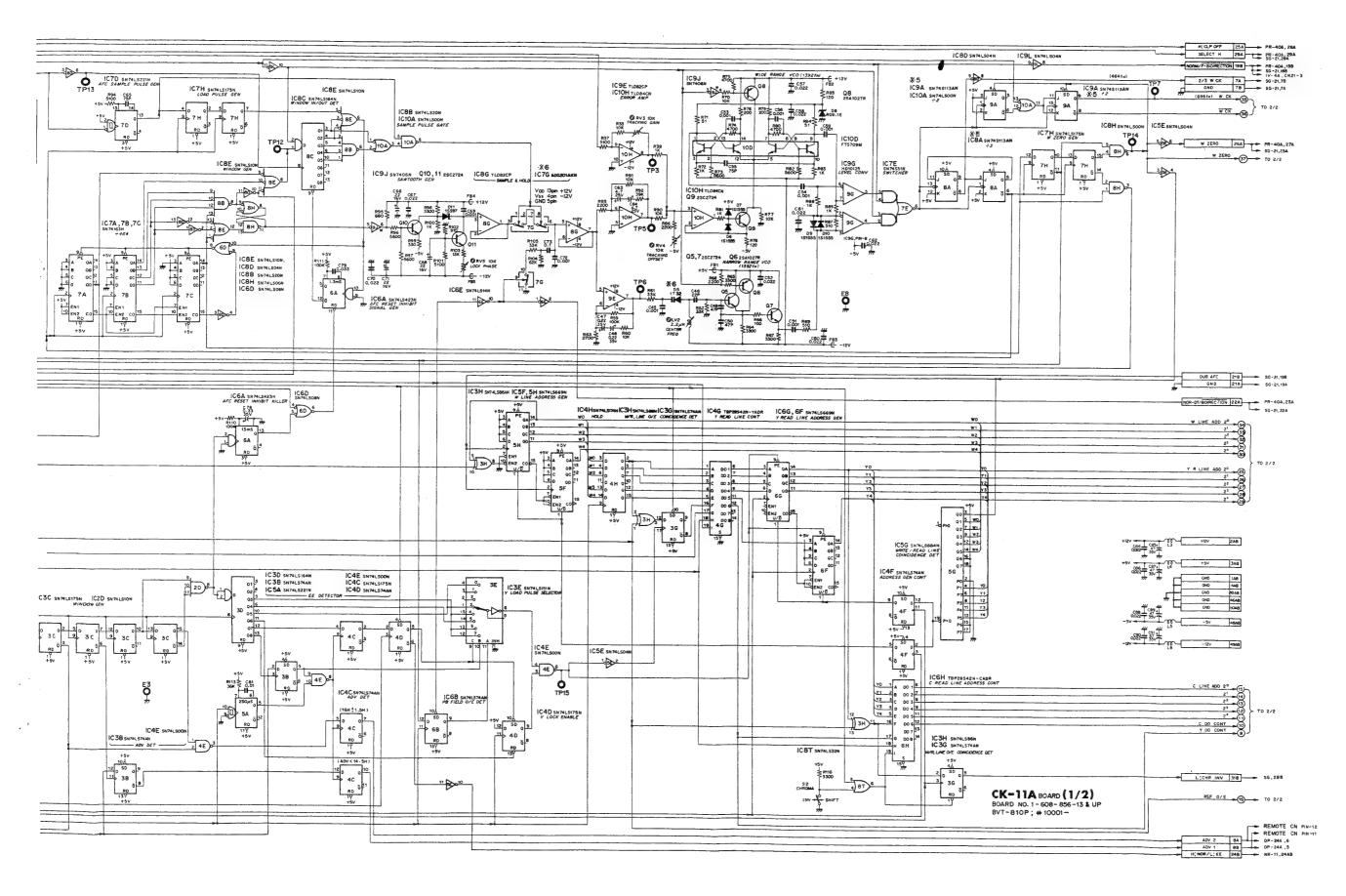
3 CK-11A BOARD (1/2); CLOCK GEN

Select H Generator
AFC (Write Clock Generator)
Write Zero Generator
Read Clock Generator
Read Zero Generator
W/R Line Address Generator
V Timing Selector
Bidirex Detector
Fast Bidirex Detector
Normal/EE Detector
Chroma Up Conv Carrier Generator

Ref. Pin No. Ref. Pin No. Ref. Pin No.									
Circ 18		+5V	GND						
CID									
CICIE 16									
C1F 16									
ICIG									
CITH									
CIN		16			20	10		16	8
ICIL 16		14	7	IC4H	16	8	IC7N	16	8
CLIM	IC1K	14	7		16	8	IC7P	16	8
ICIN	IC1L	16	8	IC4V	24	12	1C7Q	16	8
ICIP	ICIM	. 14	7	IC4W	24	12	IC7R	16	8
ICIR 20	IC1N	16	8	IC4X	20	10	IC7S	20	10
CIS 20	IC1P	16	8	IC4Y	14	7	IC7T	20	10
	IC1R	20	10	IC5A	16	8	IC7U	16	8
	IC1S	20	10	IC5B	16	8	IC7Y	14	7
No. IC1T	20	10	IC5C	16	8	IC8A	14	7	
	IC1U	16	8	IC5D	14	7		14	7
	IC1V					7			7
	IC1W	24	12	IC5F	16	8	IC8D	14	7
			7						
IC2F									
IC2H									
IC2P									
ICSP									
C2S									
IC2T									
IC3A									
IC3C									
ICSD									
IC3E									
ICSH									
103G									
IC3H		_							
IC3K									
ICSI									
ICSN 24 12 ICSS 18 9 IC10A 14 7 IC3P 24 12 ICSF 18 9 IC10D 1- IC3P 24 12 ICSF 18 9 IC10D 1- IC3Q 24 12 ICSF 18 9 IC10D IC3S 24 12 ICSF 24 12 IC10K IC3T 24 12 ICSF 24 12 IC10K IC3T 24 12 ICSF 24 12 IC10K IC3T 24 12 ICSF 14 7 IC10T IC3V 24 12 ICTA 16 8 IC10S IC3V 24 12 ICTA 16 8 IC10S IC3V 24 12 ICTA 16 8 IC10S IC3V 24 ICTA 16 8 IC10S 14 7 IC4A ICA ICTO 16 8 IC10Y 14 7 IC4A ICA ICTO 16 8 IC10Y 14 7 IC4A ICA ICTO ICTO 16 8 IC10Y 14 7 IC4A ICA ICTO IC									
IC3P									
1C3Q								14	- (
ICSS									
IC3T									
IC3U									
1C3W 24 12 1C6Y 14 7 1C10R ** 1C3W 24 12 1C7A 16 8 1C10S ** 1C3X 20 10 1C7B 16 8 1C10X ** 1C3Y 14 7 1C7C 16 8 1C10X 14 7 1C4A 16 10 1C3Y 16 8 1C10Y 14 7 1C4A 16 10 1C3Y 16 8 1C10Y 14 7 1C4A 16 10 1C3Y 16 7 1C4A 16 10 1C3Y 16 7 1C3Y 14 7 1C4A 16 10 1C3Y 16 10 1C3Y 14 7 1C4A 16 10 1C3Y 14 7 1C3Y 15 1C3Y 14 7 1C3Y 15 1C3Y 1									
C3W 24 12 IC7A 16 8 IC1QS									
IC3X 20 10 IC7B 16 8 IC10U *									
IC3Y 14 7 IC7C 16 8 IC10X 14 7 IC4A 16 11 IC7D 16 8 IC10Y 14 7									
IC4A 16 IC7D 16 8 IC10Y 14 7									
IC4A 16 III IC7D 16 8 IC10Y 14 7									
NOTE: * ··· REFER TO SCHEMATIC IC10Z 14 7				IC7D			IC10Y IC10Z		7

NOTE:		
MARK	CHANGE INFORMATION	SERIAL NO.
※ 1	R36 13K → 18K	12001 ~
 *2	ADDED D12 1SS119	13201 ~
 *3	ADDED D13 1SS119	13801 ~
 *4	C7 0.0015 → 0.0022	14901 ~
 %5	IC8A, 9A SN74S113N → SN74S113AN	16201 ~
※ 6	IM, 5 1T25 → 1T32 IC7G, 10S HI1-0201-5 → ADG201AKN	16301 ~

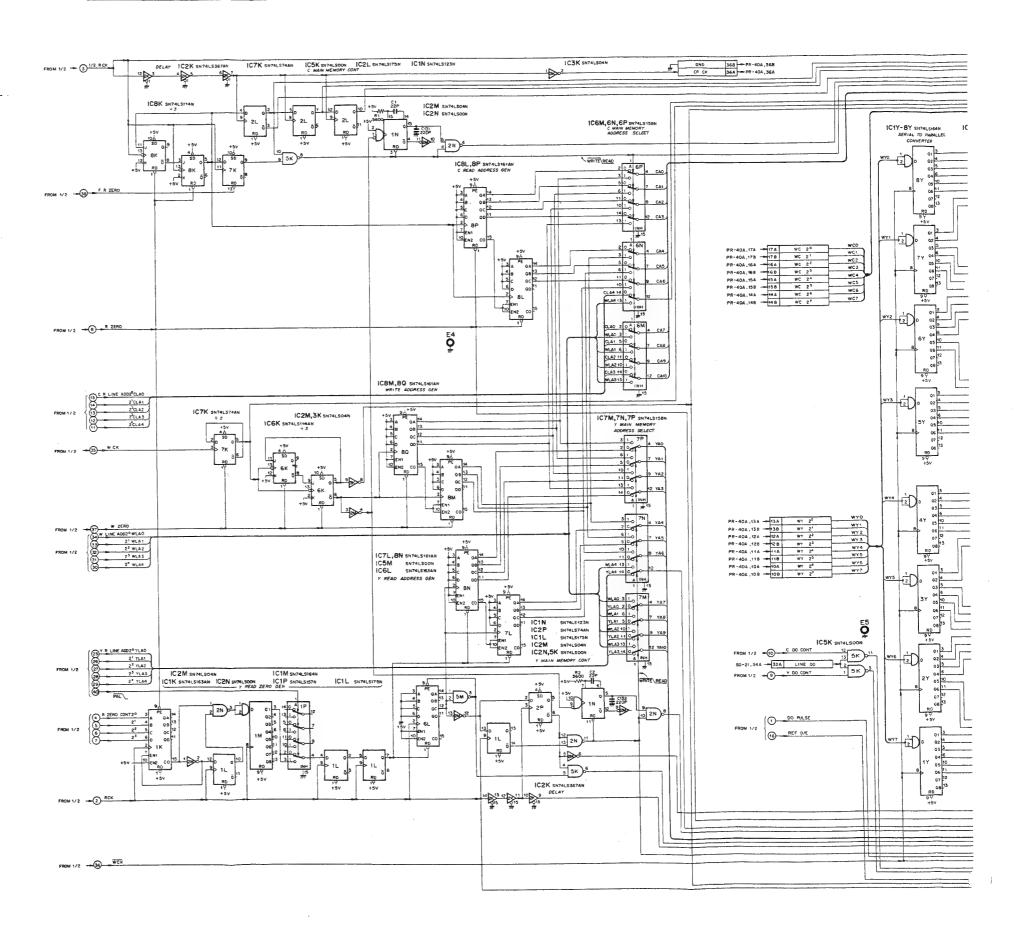


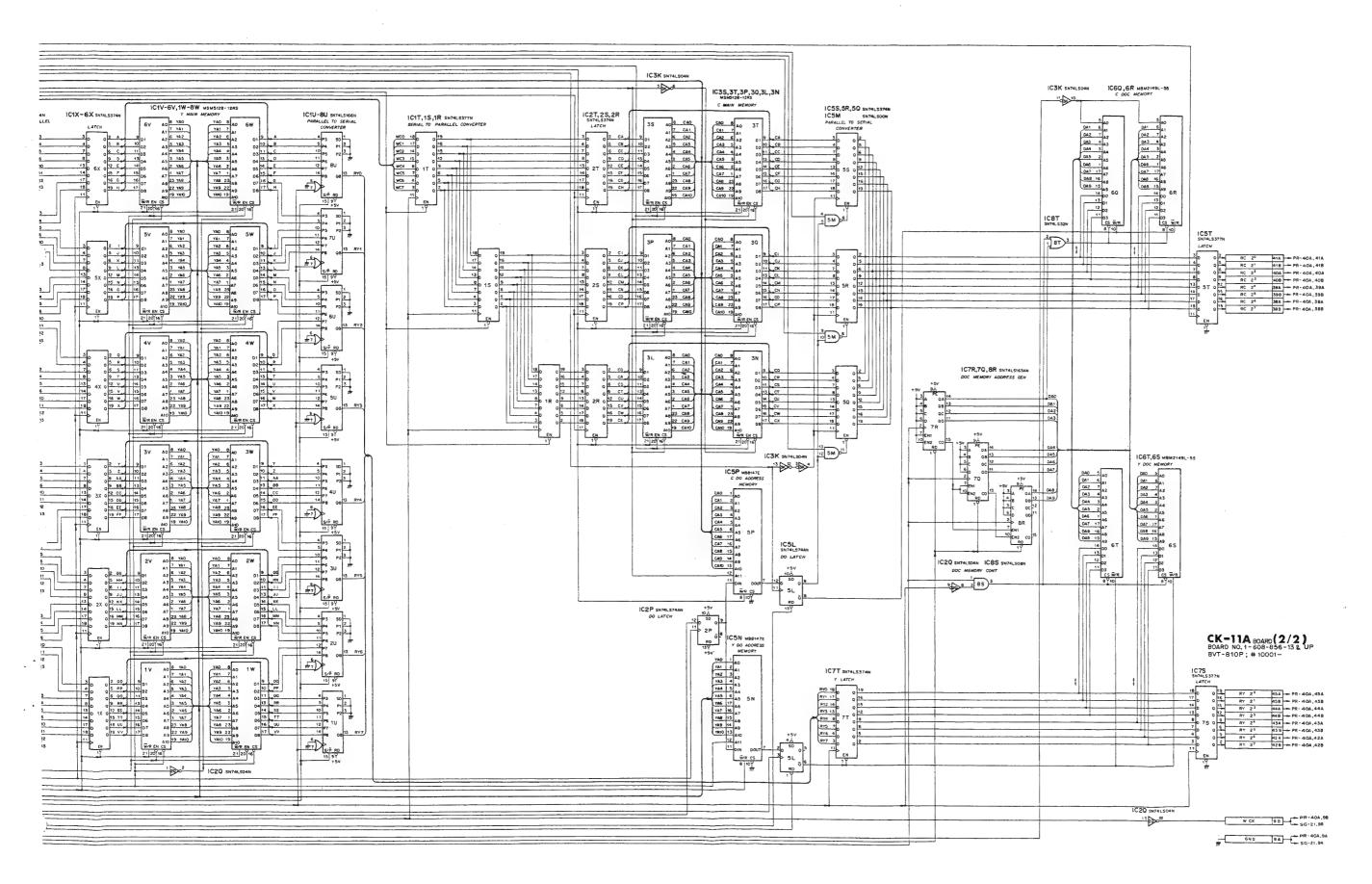


3 CK-11A BOARD (2/2); CLOCK GEN

32-Line Main Memory DOC Memory Serial to Parallel Converter Main Memory W/R Address Generator

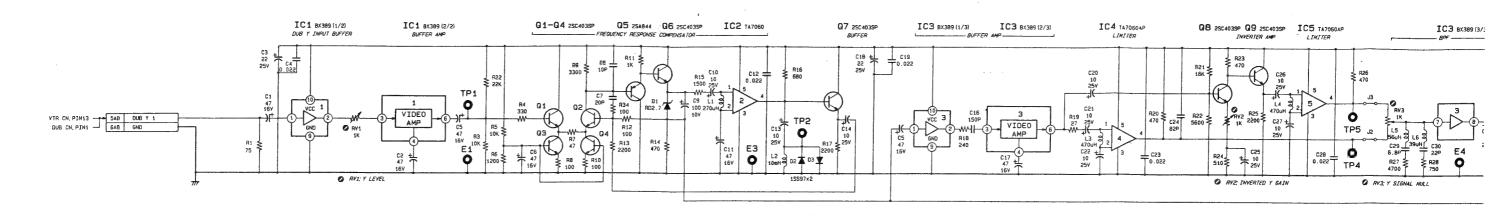
	Туре			Pin No		1000	Ref	Туре	1.100		Pin No.	A-2-	-
No.	1		+5V		-5V -	12V	No.		+ 12V		GND	-5V	-12
ICIB	BX381	2		6		9	IC5V	MSM5128-12RS		24	12		
IC1C	SN74265N	1	16	8			IC5W	MSM5128 - 12RS		24	12		
IC1D	SN74LS51N	1	14	7	1 1	1	IC5X	SN74LS374N	1	20	10		
IC1E	SN74LS163AN	i	16	8		1	IC5Y	SN74LS164N		14	7		
IC1F	SN74LS221N	<u> </u>	16	8	l j		IC6A	SN74LS423N		16	8		L
IC1G	SN74LS163AN	1	16	8			IC6B	SN74LS74AN		14	7		
IC1H	SN74LS04N		14	7	{	- 1	IC6C	SN74LS221N	1	16	8		
IC1K	SN74LS163AN		14	7		- 1	IC6D	SN74LS08N		14	7		
ICIL	SN74LS175N	İ	16	8		-	IC6E	SN74LS14N		14	7		
IC1M	SN74LS164N		14	7	[IC6F	SN74LS669N		16	8		
IC1N	SN74LS123N	1	16	8			IC6G	SN74LS669N	-	16	. 8	-	-
IC1P	SN74LS157N		16	8			IC6H	TBP28S42N		20	10		l
IC1R	SN74LS377N	-	20	10			IC6K	SN74LS114AN		14	7		
IC1S	SN74LS377N	-	20	10			IC6L	SN74LS163AN		16	8		
IC1T	SN74LS377N	1	20	10			IC6M	SN74LS158N	1	16	8		
IC1U	SN74LS166AN		16	8		-	IC6N	SN74LS158N	-	16	8		-
				- 1	i								i
IC1V	MSM5128 - 12RS		24	12			IC6P	SN74LS158N		16	8		
IC1W	MSM5128 - 12RS	}	24	12			IC6Q	MBM2149L - 55	1	18	9		ŀ
IC1X	SN74LS374N		20	10	1 1		IC6R	MBM2149L - 55		18	9		
IC1Y	SN74LS164N	1	14	7			IC6S	MBM2149L-55		18	9		
IC2D	SN74LS10N		14	7	1	1	IC6T	MBM2149L - 55		18	9		
IC2E	SN74LS175N	1	16	8			IC6U	SN74LS166AN		16	8		i
IC2F	SN74LS74AN	1	14	7			IC6V	MSM5128 - 12RS	i	24	12		
IC2G	SN74LS163AN	1	16	8		1	IC6W	MSM5128-12RS		24	12		
IC2H	MB7051		16	8		- 1	IC6X	SN74LS374N		20	10		1
IC2K	SN74LS367AN	1	16	8		\neg	IC6Y	SN74LS164N		14	7		
IC2L	SN74LS175N		16	8	1 1	1	IC7A	SN74163N		16	8		
IC2M	SN74LS04N	İ	14	7	[]	- 1	IC7B	SN74163N		16	8		
IC2N	SN74LS00N		14	1 7		- 1	IC7C	SN74163N		16	8		
IC2N	SN74LS74AN		14	7		- 1	IC7D	SN74LS221N		16	8		
IC2P IC2Q	SN74LS04N	-	14	7	 -		IC7E	SN74S51N	-	14	7		-
IC2Q IC2R	SN74LS374N	1	20	10			IC7G	ADG201 AKN	13	12	5		۱ 4
					1		IC7H		10				1 4
IC2S	SN74LS374N		20	10			10111	SN74LS175N		16	8		
IC2T	SN74LS374N	1	20	10		ļ	IC7K	SN74LS74AN		14	7		ĺ
IC2U	SN74LS166AN		16	8		_	IC7L	SN74LS161AN	<u> </u>	16	8		
IC2V	MSM5128 - 12RS	1	24	12			IC7M	SN74LS158N		16	8		
IC2W	MSM5128 - 12RS		24	12		- 1	IC7N	SN74LS158N	1	16	8		1
IC2X	SN74LS374N	ì	20	10	1 1		IC7P	SN74LS158N		16	8		
IC2Y	SN74LS164N		14	7	i I	. 1	IC7Q	SN74LS163AN		16	8		
IC3A	TC4020BP	1	16	8	!	- 1	IC7R	SN74LS163AN		16	8		ŀ
IC3B	SN74LS74AN		14	7			IC7S	SN74LS374N	1	20	10		
IC3C	SN74LS175N		16	8	1		IC7T	SN74LS374N	i	20	10		ł
IC3D	SN74LS164N		14	7			IC7U	SN74LS166AN		16	8		
IC3E	SN74LS151N		16	8		- 1	IC7Y	SN74LS164N	1	14	7		ļ
IC3F	TC4020BP	l	16	8		1	IC8A	SN74S113AN	j	14	7		-
IC3G	SN74LS74AN	+	14	7	 	_	IC8B	SN74LS20N	1	14	7		-
IC3H	SN74LS86N	ŀ	14	7			1C8C	SN74LS164N	1	14	7		1
IC3K	SN74LS04N	1	14	7	1 1		ICSD	SN74LS04N	1	14	7		1
IC3L		ŧ	24	12			ICSE	SN74LS10N	1		7		1
	MSM5128 - 12RS	1							1 .	14	1		Ι.
IC3N	MSM5128 - 12RS		24	12			IC8G	TL082CP	8				4
IC3P	MSM5128 - 12RS		24	12			IC8H	SN74LS00N		14	7		ŧ
IC3Q	MSM5128 - 12RS	1	24	12	1 1		IC8K	SN74LS114AN		14	7		l
IC3S	MSM5128 - 12RS	j	24	12			IC8L	SN74LS161AN	1	16	8		
IC3T	MSM5128 - 12RS -		24	12	i I		IC8M	SN74LS161AN	1	16	8		
IC3U	SN74LS166AN	١	16	8	l l .		IC8N	SN74LS161AN		16	8		
IC3V	MSM5128 - 12RS		24	12			IC8P	SN74LS161AN		16	8		
IC3W	MSM5128 - 12RS	1	24	12	1 1		IC8Q	SN74LS161AN	1	16	8		
IC3X	SN74LS374N	1	20	10	1		IC8R	SN74LS163AN	-	16	8		
IC3Y	SN74LS164N		14	7			IC8S	SN74LS08N		14	7		
IC4A	SN74LS163AN		16	B	1		ICST	SN74LS32N		14	7		
	SN74LS221N	1	16	8	 -		IC8U	SN74LS166AN	+	16	8	_	
IC4B		1	1										i
IC4C	SN74LS175N	1	16	8			IC8Y	SN74LS164N		14	. 7		ĺ
IC4D	SN74LS74AN		14	7			IC9A	SN74S113AN	-	14	7	į	
IC4E	SN74LS00N		14	7			IC9E	TL082CP	8	١.		ا ا	4
IC4F	SN74LS74AN	-	14	7			IC9G	HD10125	-	9		8	-
IC4G	TBP28S42N		20	10	1		IC9J	SN7406N	1	14	7		
IC4H	SN74LS174N		16	8			IC9K	SN74LS00N		14	7		
IC4U	SN74LS166AN		16	8	1 1		IC9L	SN74LS04N		14	7		
IC4V	MSM5128 - 12RS		24	12			IC9M	SN74LS74AN		14	7	1	
IC4W	MSM5128 - 12RS	1	24	12			IC9P	μ PC319C	11		8		L
IC4X	SN74LS374N		20	10			IC9R	SN74LS221N	1	16	8		
IC4Y	SN74LS164N		14	7	1		IC9S	NJM4560D	8				١,
IC5A	SN74LS221N	1	16	8			IC9T	BX381	2		6		
ICSB	SN74LS151N		16	8	1 1		IC9U	TL601CP	8		1	į	1
	SN74LS161AN		16	8			IC9V	SN74LS10N	1	14	7		Ι΄
	SN74LS393N	+	14	7	 		IC9V	SN74LS164N	+	14	7		-
1C5C	SN74LS393N SN74LS04N			7	1 1			SN/4LS164N SN/4LS393N	1		7		1
IC5C IC5D			14				IC9X		1	14			1
IC5C IC5D IC5E		1	16	8			IC9Y	SN74LS398N	1	14	7		1
IC5C IC5D IC5E IC5F	SN74LS669N	1	20	10			IC9Z	SN74LS175N		16	8		1
IC5C IC5D IC5E IC5F IC5G	SN74LS669N SN74LS684N	1		8			IC10A	SN74LS00N	1.	14	7		
ICSC ICSD ICSE ICSF ICSG ICSH	SN74LS669N SN74LS684N SN74LS669N		16				IC10D	FT5709M	1 -	1 -	l		1 -
ICSC ICSD ICSE ICSF ICSG ICSH ICSK	SN74LS669N SN74LS684N	-	14	7	1 1			l				-	
ICSC ICSD ICSE ICSF ICSG ICSH	SN74LS669N SN74LS684N SN74LS669N						IC10H	TL084CN	4			-	1
ICSC ICSD ICSE ICSF ICSG ICSH ICSK	SN74LS689N SN74LS684N SN74LS669N SN74LS00N		14	7			IC10H IC10K	μPC319C	11		8	_	
ICSC ICSD ICSE ICSF ICSG ICSH ICSK ICSL ICSM	SN74LS669N SN74LS684N SN74LS669N SN74LS00N SN74LS74AN SN74LS00N		14 14	7 7			IC10K	μ PC319C		14	8 7		
ICSC ICSD ICSE ICSF ICSG ICSH ICSK ICSL ICSM ICSN	SN74LS669N SN74LS684N SN74LS669N SN74LS00N SN74LS74AN SN74LS00N MB8147E		14 14 14 18	7 7 7 9			IC10K IC10M	μ PC319C SN74LS11N			7		
IC5C IC5D IC5E IC5F IC5G IC5H IC5K IC5L IC5M IC5N IC5P	SN74LS669N SN74LS684N SN74LS669N SN74LS00N SN74LS74AN SN74LS70N MB8147E MB8147E		14 14 14 18 18	7 7 7 9 9			IC10K IC10M IC10P	μ PC319C SN74LS11N HA1 - 4905	11	14			
ICSC ICSD ICSE ICSF ICSG ICSH ICSK ICSL ICSM ICSN ICSP ICSQ	SN74LS669N SN74LS669N SN74LS669N SN74LS00N SN74LS74AN SN74LS00N MB8147E MB8147E SN74LS374N		14 14 14 18 18	7 7 7 9 9			IC10K IC10M IC10P IC10R	μ PC319C SN74LS11N HA1 - 4905 TL084CN	11		7 9		1
ICSC ICSD ICSE ICSF ICSG ICSH ICSK ICSL ICSM ICSN ICSP ICSQ ICSR	SN74LS669N SN74LS669N SN74LS669N SN74LS00N SN74LS74AN SN74LS00N MB814TE MB814TE SN74LS374N SN74LS374N		14 14 14 18 18 14	7 7 7 9 9			IC10K IC10M IC10P IC10R IC10S	μ PC319C SN74LS11N HA1 - 4905 TL084CN ADG201AKN	11 4 13		7		1
ICSC ICSD ICSE ICSF ICSG ICSH ICSK ICSL ICSM ICSN ICSP ICSQ ICSR ICSS	SN74LS669N SN74LS694N SN74LS669N SN74LS00N SN74LS00N SN74LS00N MB814TE MB814TE SN74LS374N SN74LS374N SN74LS374N		14 14 14 18 18 14 14	7 7 7 9 9 7 7		-	IC10K IC10M IC10P IC10R IC10S IC10U	µ PC319C SN74LS11N HA1 - 4905 TL084CN ADG201AKN TL082CP	11	1	7 9		1
ICSC ICSD ICSE ICSF ICSG ICSH ICSK ICSL ICSM ICSN ICSP ICSQ ICSR	SN74LS669N SN74LS669N SN74LS669N SN74LS00N SN74LS74AN SN74LS00N MB814TE MB814TE SN74LS374N SN74LS374N		14 14 14 18 18 14	7 7 7 9 9			IC10K IC10M IC10P IC10R IC10S	μ PC319C SN74LS11N HA1 - 4905 TL084CN ADG201AKN	11 4 13		7 9		1

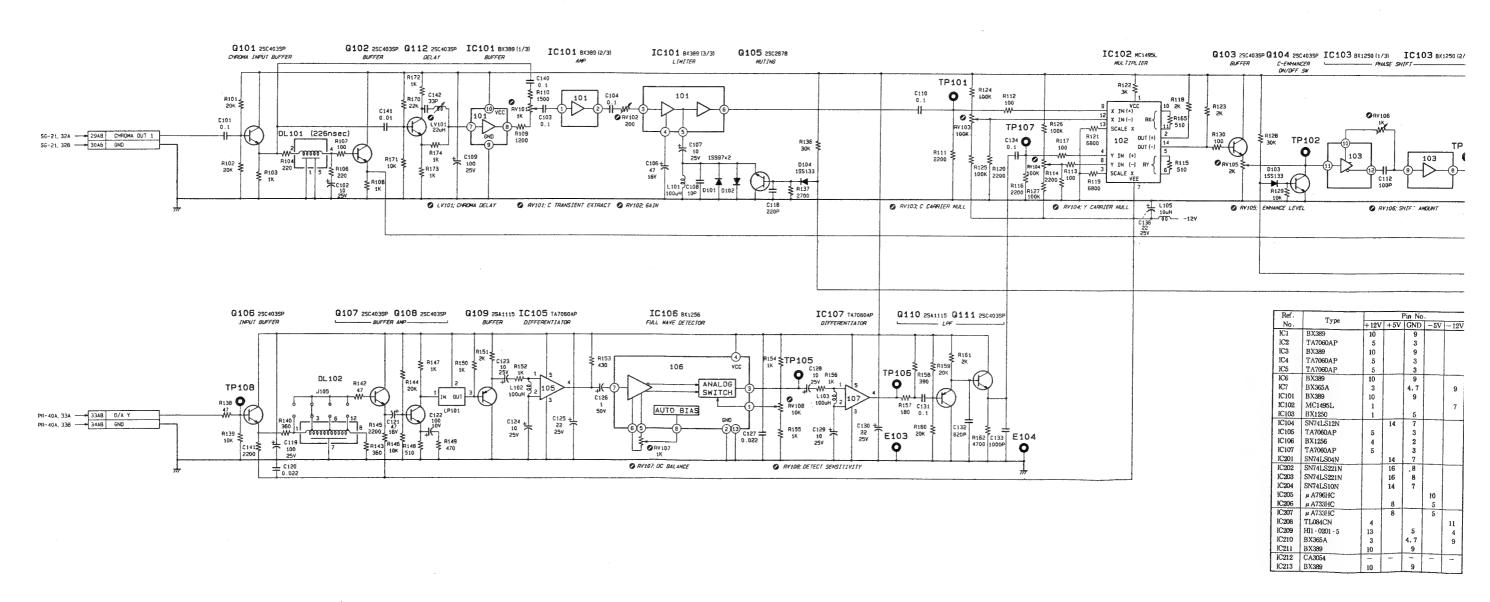


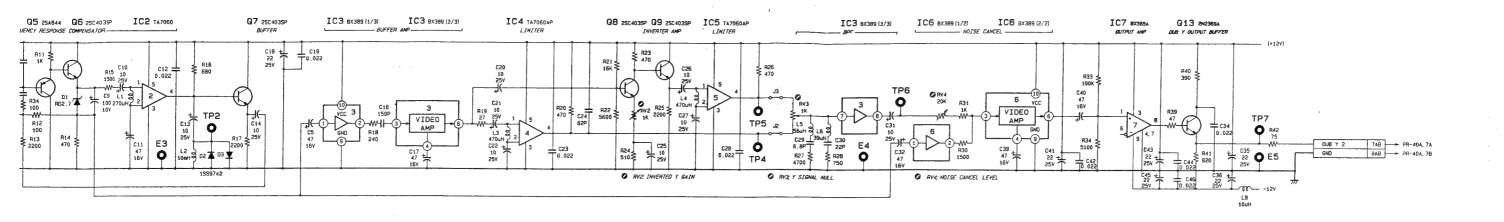


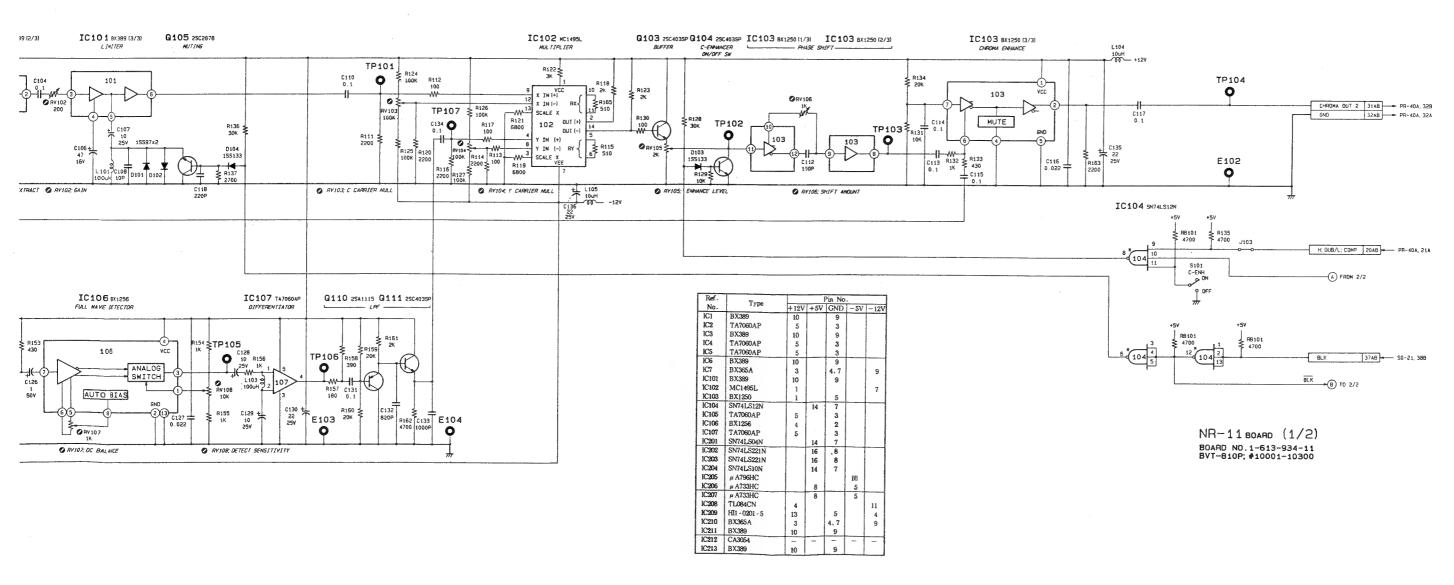
4 NR-11 BOARD (1/2); NOISE REDUCER DUB Y Noise Canceller Chroma Enhancer

Serial NO.10001 to 10300



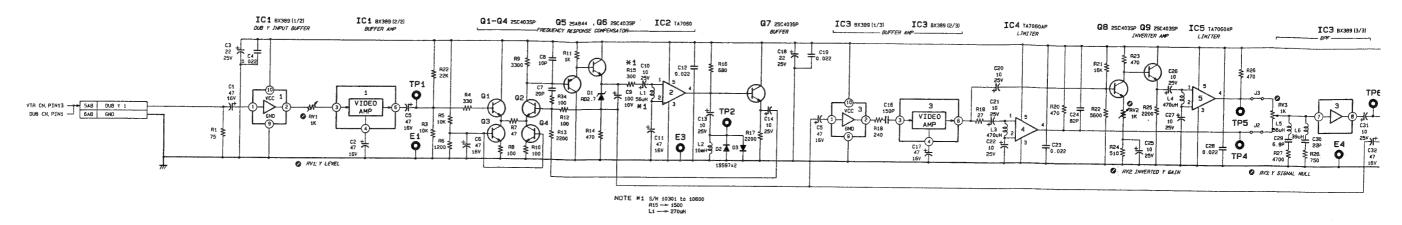


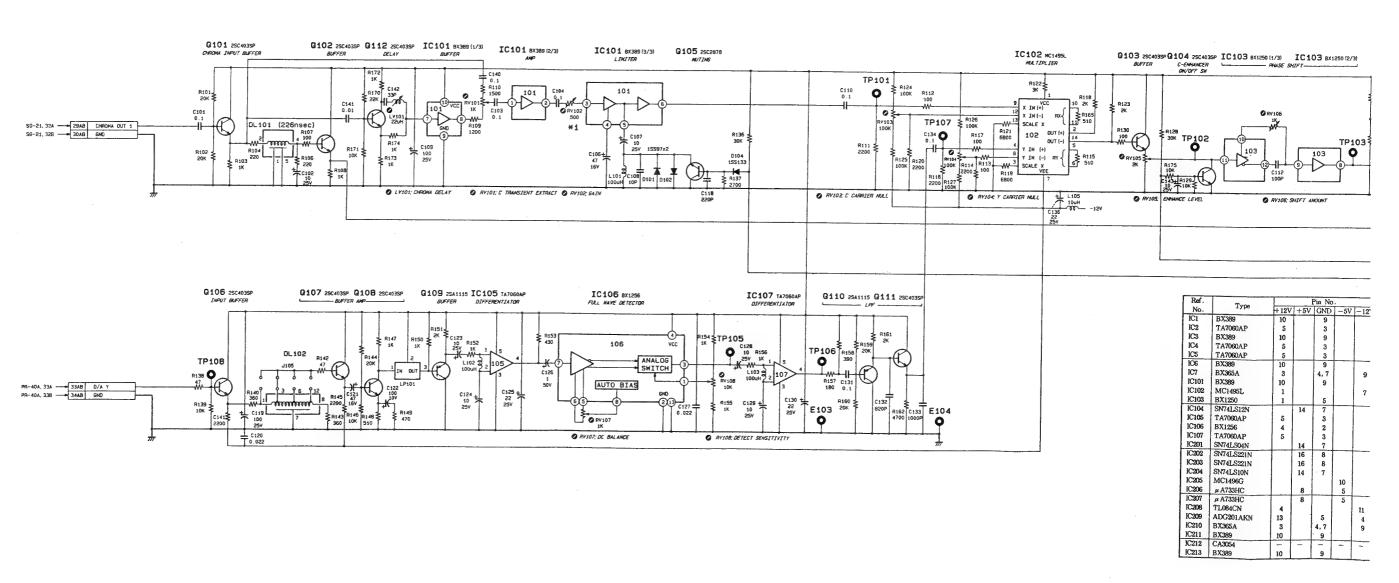


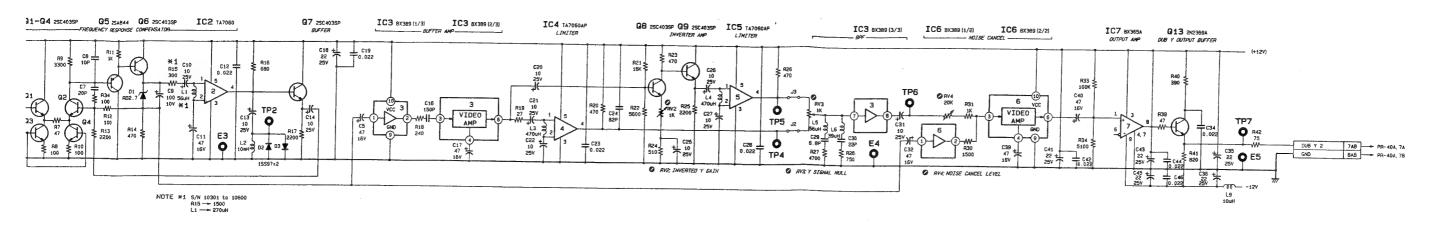


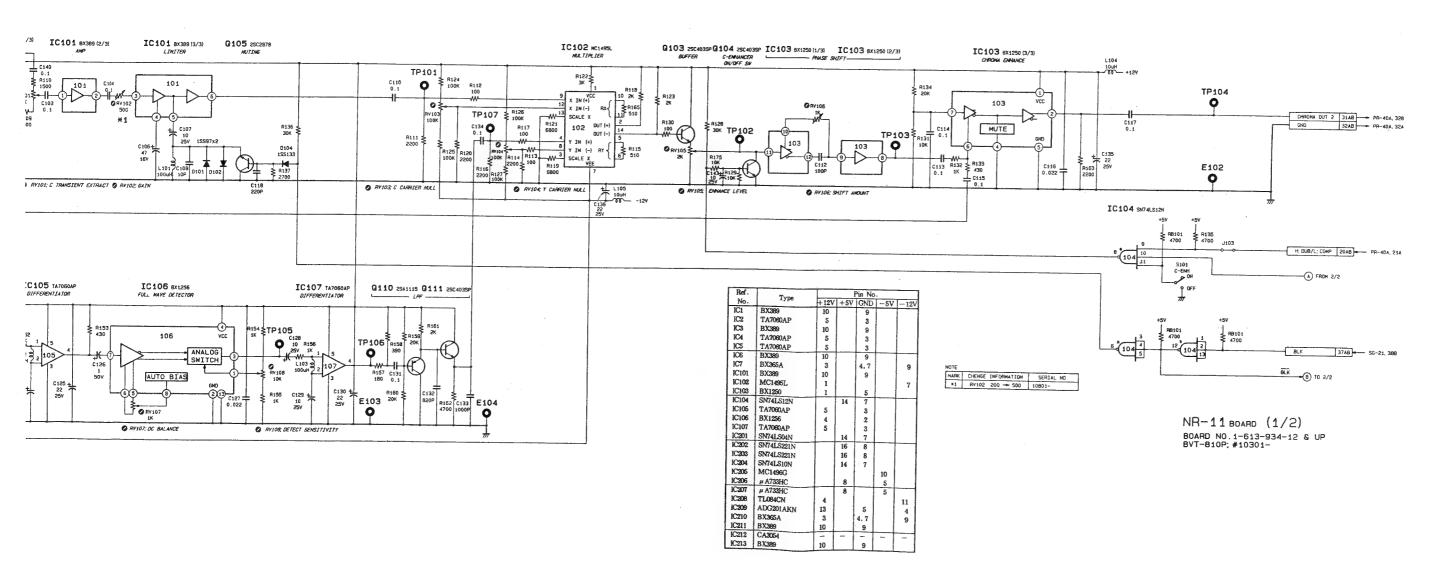
Serial NO.10301 and higher

4 NR-11 BOARD (1/2); NOISE REDUCER DUB Y Noise Canceller Chroma Enhancer









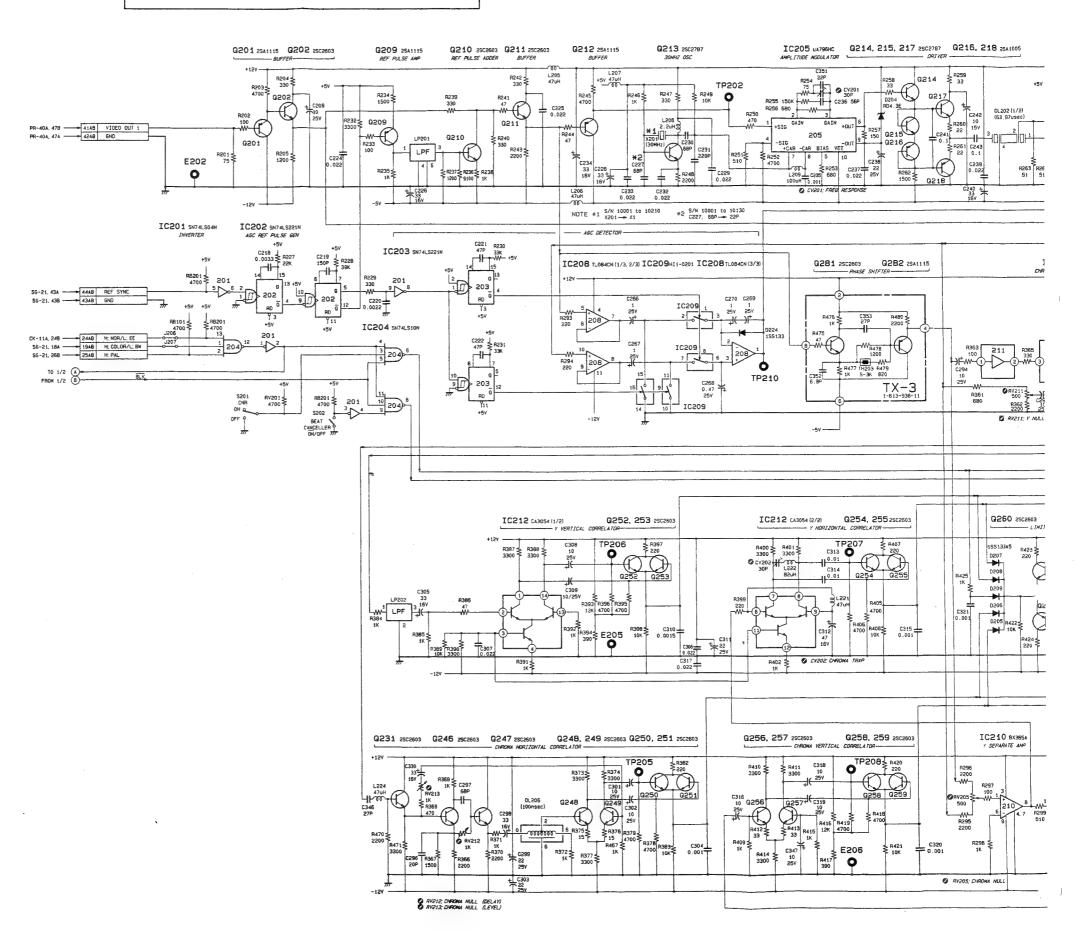
TX-3, NR-11 (2/2) T

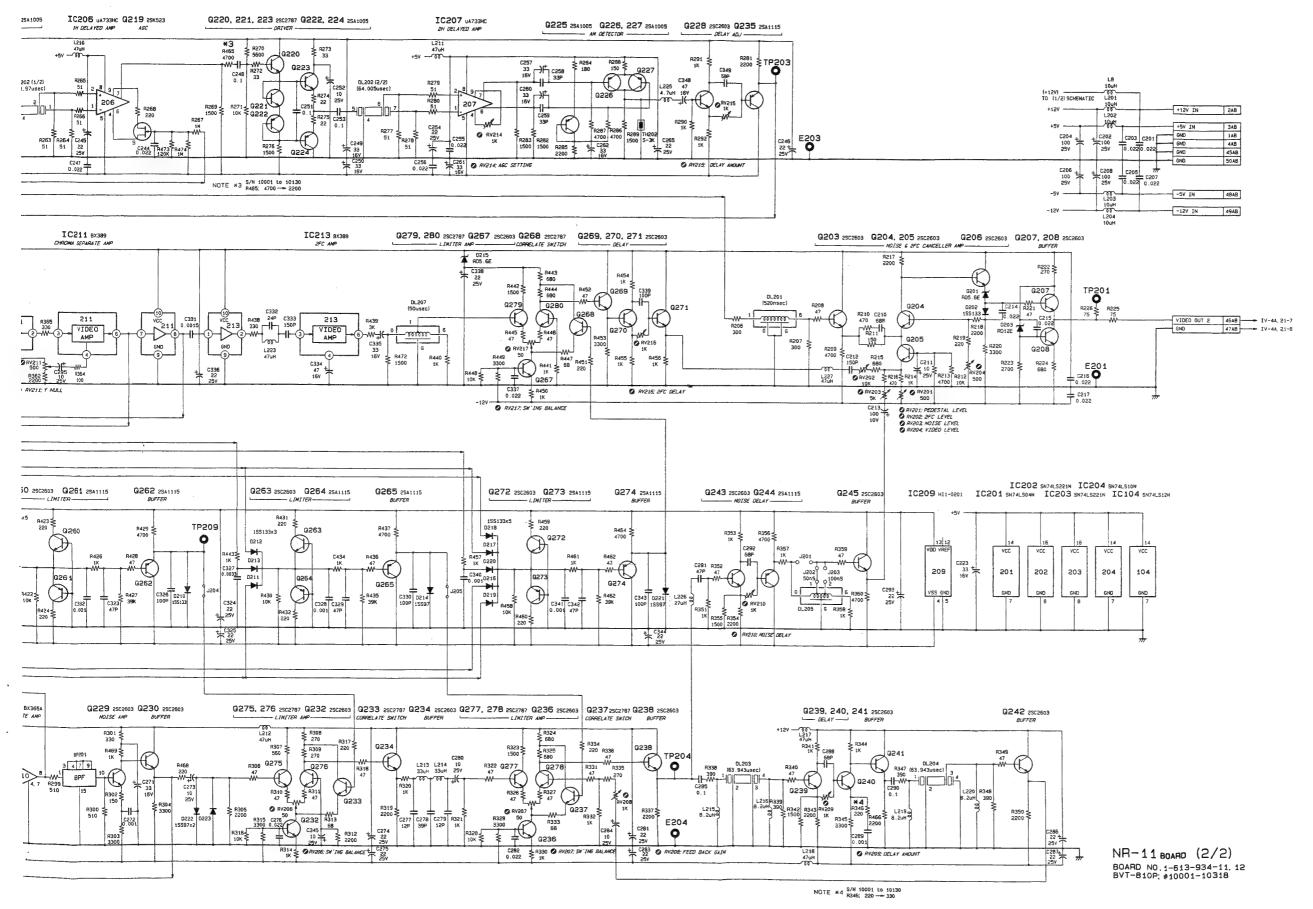
TX-3, NR-11 (2/2)

Serial NO.10001 to 10318

4 NR-11 BOARD (2/2); NOISE REDUCER Chroma Noise Reducer Beat Canceller

Ref.	m	i	F	in No.		
No.	Type	+ 12V	+5V	GND	-5V	-12V
IC1	BX389	10		9		
IC2	TA7060AP	5		3		
IC3	BX389	10		9		
IC4	TA7060AP	5		3		
1C5	TA7060AP	5		3		
IC6	BX389	10		9		
IC7	BX365A	3	ì	4,7		9
IC101	BX389	10		9		
IC102	MC1495L	1				7
IC103	BX1250	1		5		
IC104	SN74LS12N		14	7		
IC105	TA7060AP	5	ĺ	3		İ
IC106	BX1256	4		2		
IC107	TA7060AP	5		3		
IC201	SN74LS04N		14	7		
IC202	SN74LS221N		16	8		
IC203	SN74LS221N		16	8		
IC204	SN74LS10N		14	7		
IC205	μ А796НС			-	10	
IC206	μ A733HC		8]	5	
IC207	μ A733HC		8		5	
IC208	TL084CN	4				31
IC209	HII1 - 0201 - 5	13		5		4
IC210	BX365A	3		4,7	ĺ	9
IC211	BX389	10		9		
IC212	CA3054	-	-	-	-	-
IC213	BX389	10	İ	9)	



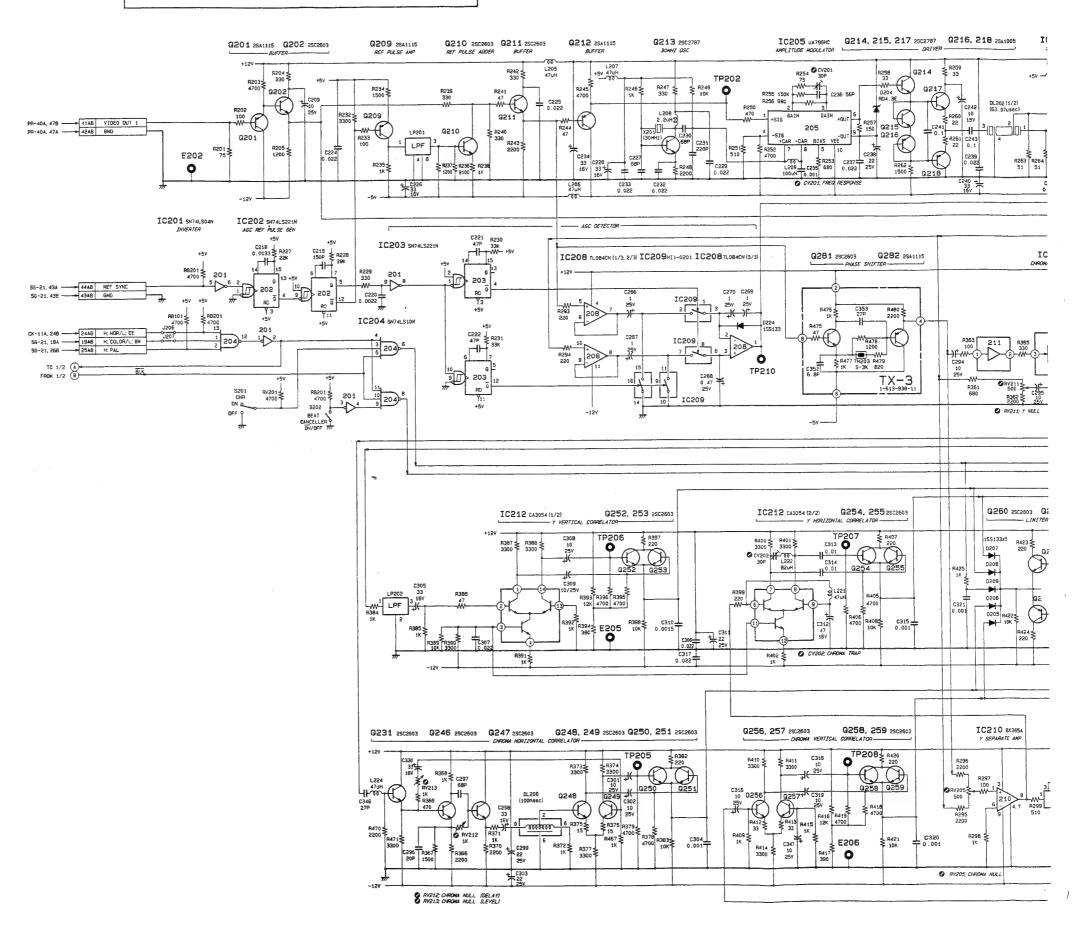


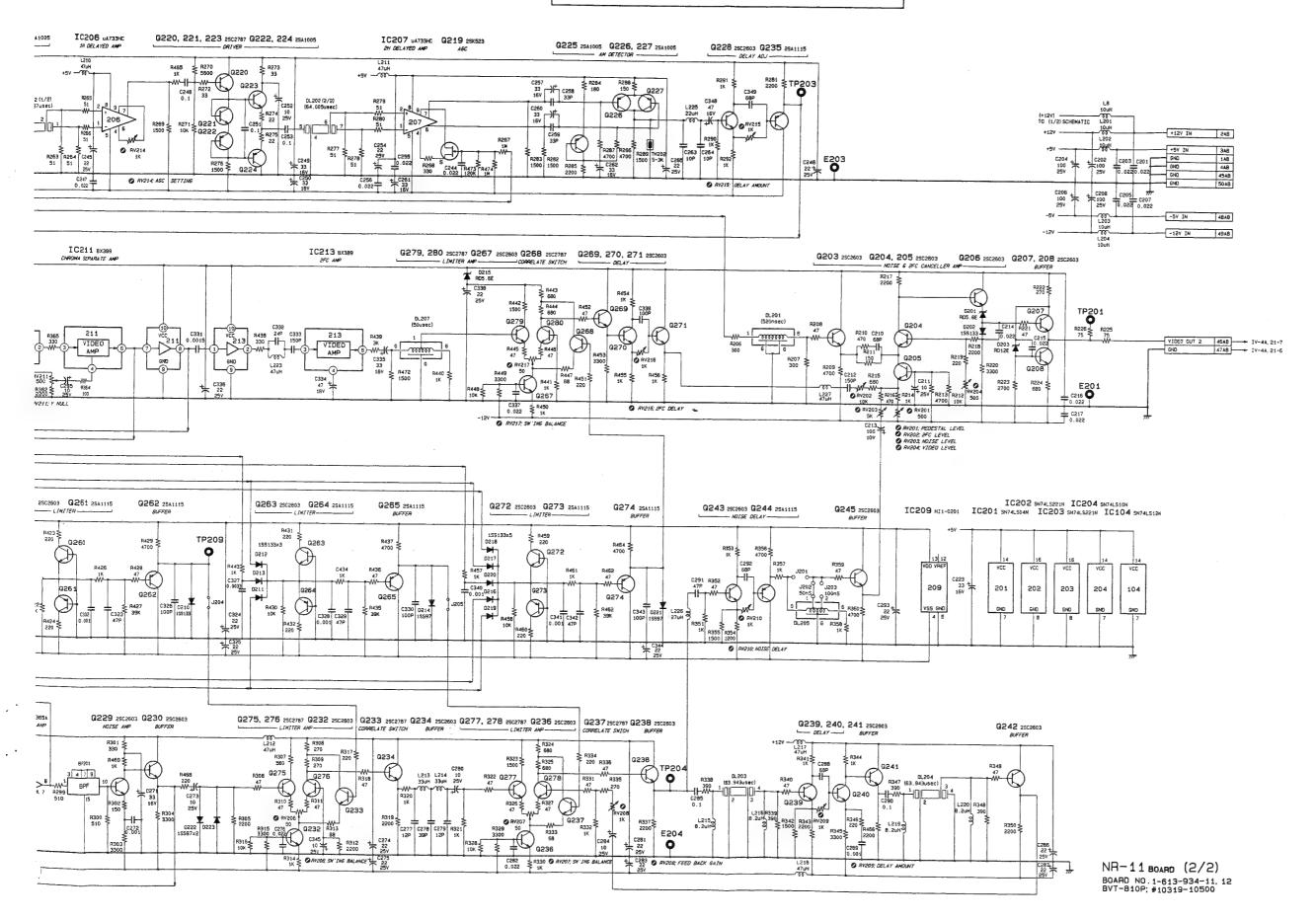
TX-3, NR-11 (2/2) TX-3, NR-11 (2/2)

Serial NO.10319 to 10500

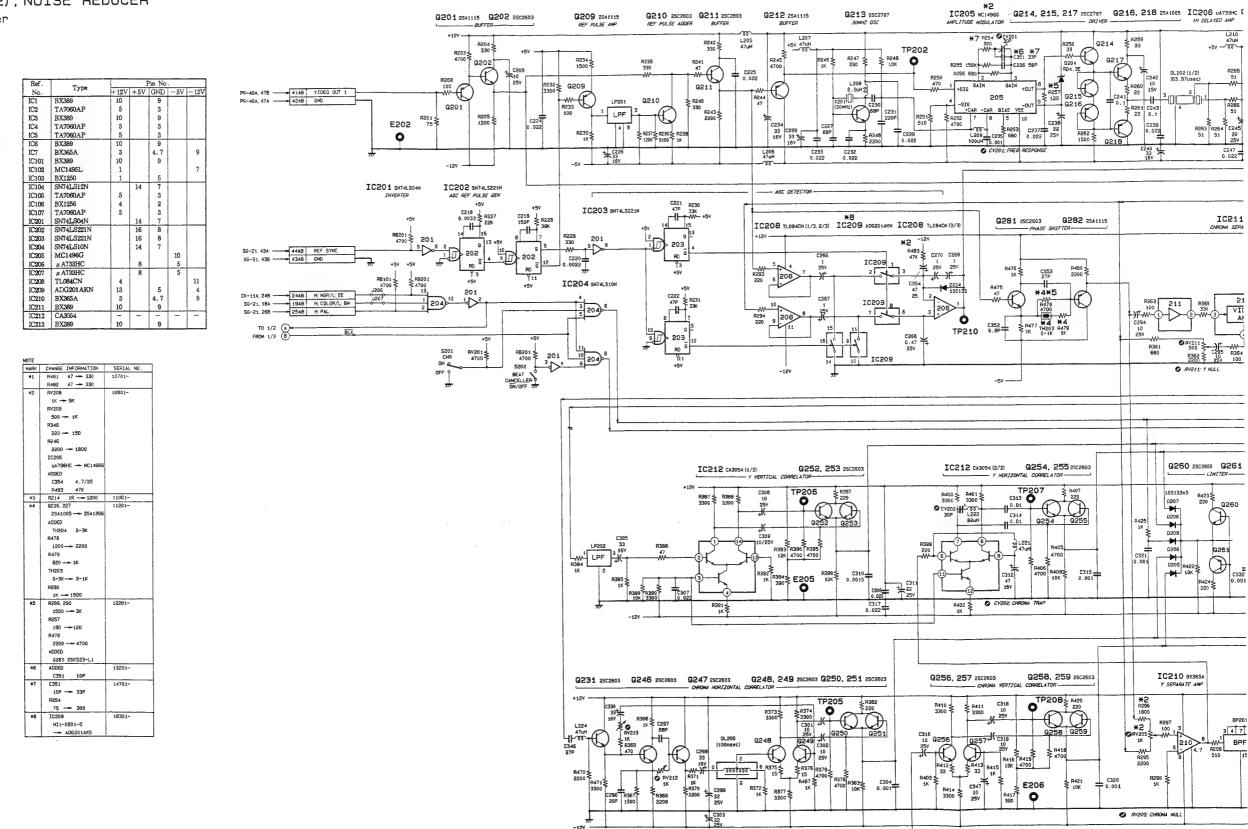
4 NR-11 BOARD (2/2); NOISE REDUCER
Chroma Noise Reducer
Beat Canceller

Ref.			F	in No		
No.	Туре	+12V	+5V	GND	-5V	-12V
IC1	BX389	10		9		
IC2	TA7060AP	5		3		
IC3	BX389	10		9		
IC4	TA7060AP	5		3		
IC5	TA7060AP	5		3		
IC6	BX389	10		9		
IC7	BX365A	3		4,7		9
IC101	BX389	10		9		
IC102	MC1495L	1		İ	1	7
IC103	BX1250	1	Ĺ	5		
IC1 0 4	SN74LS12N		14	7		
IC105	TA7060AP	5		3		
IC106	BX1256	4		2	1	
IC107	TA7060AP	5		3		1
IC201	SN74LS04N		14	7		
IC202	SN74LS221N		16	8		
IC203	SN74LS221N		16	8		1
IC204	SN74LS10N		14	7]	
IC205	μ А796НС	İ		1	10	
JC206	μ A733HC		8		5	
IC207	μ А733НС		8		5	
IC208	TL084CN	4	1			11
IC209	H11 - 0201 - 5	13		5		4
IC210	BX365A	3		4.7		9
IC211	BX389	10		9		
IC212	CA3054	-	-	-	-	-
IC213	BX389	10		9		

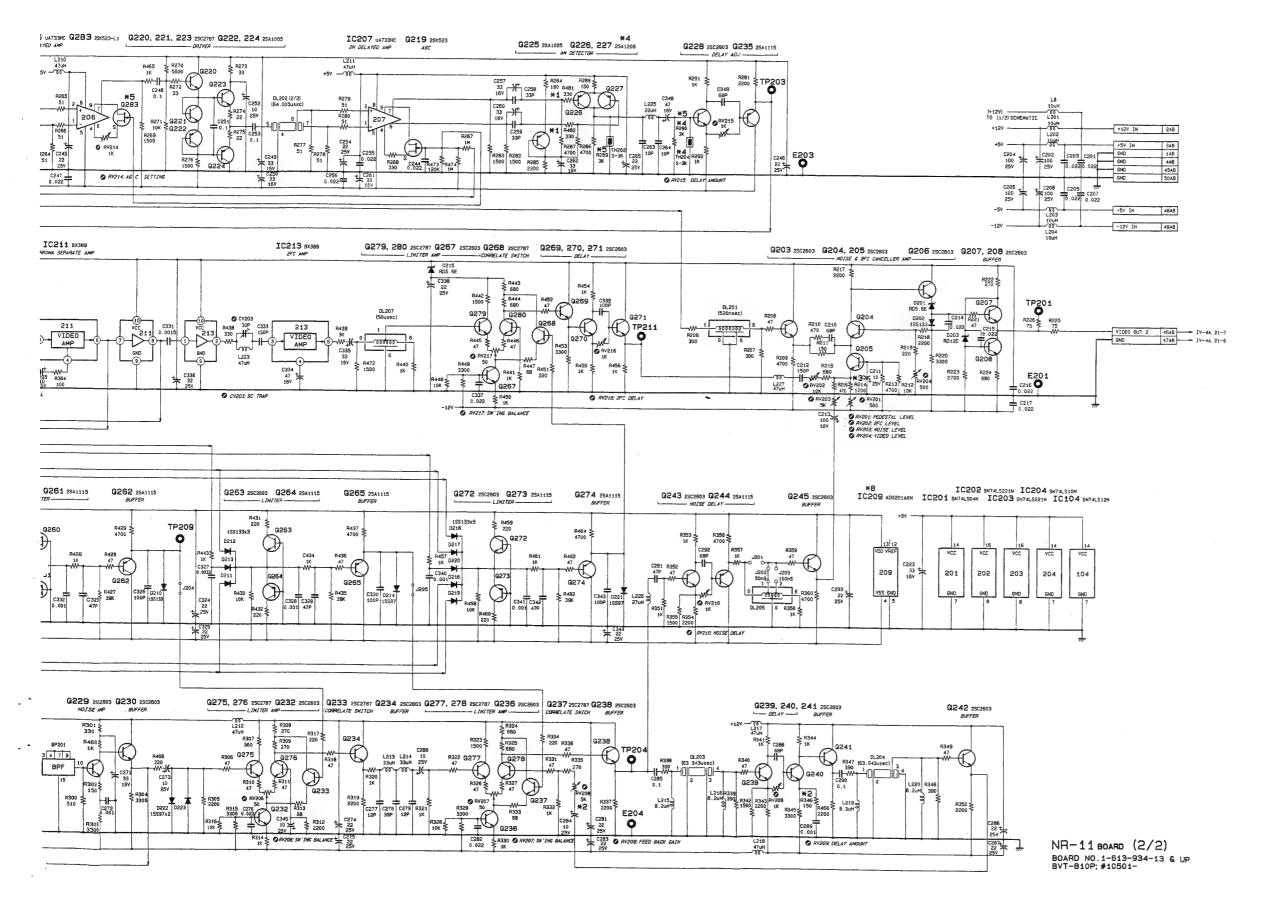




4 NR-11 BOARD (2/2); NOISE REDUCER
Chroma Noise Reducer
Beat Canceller

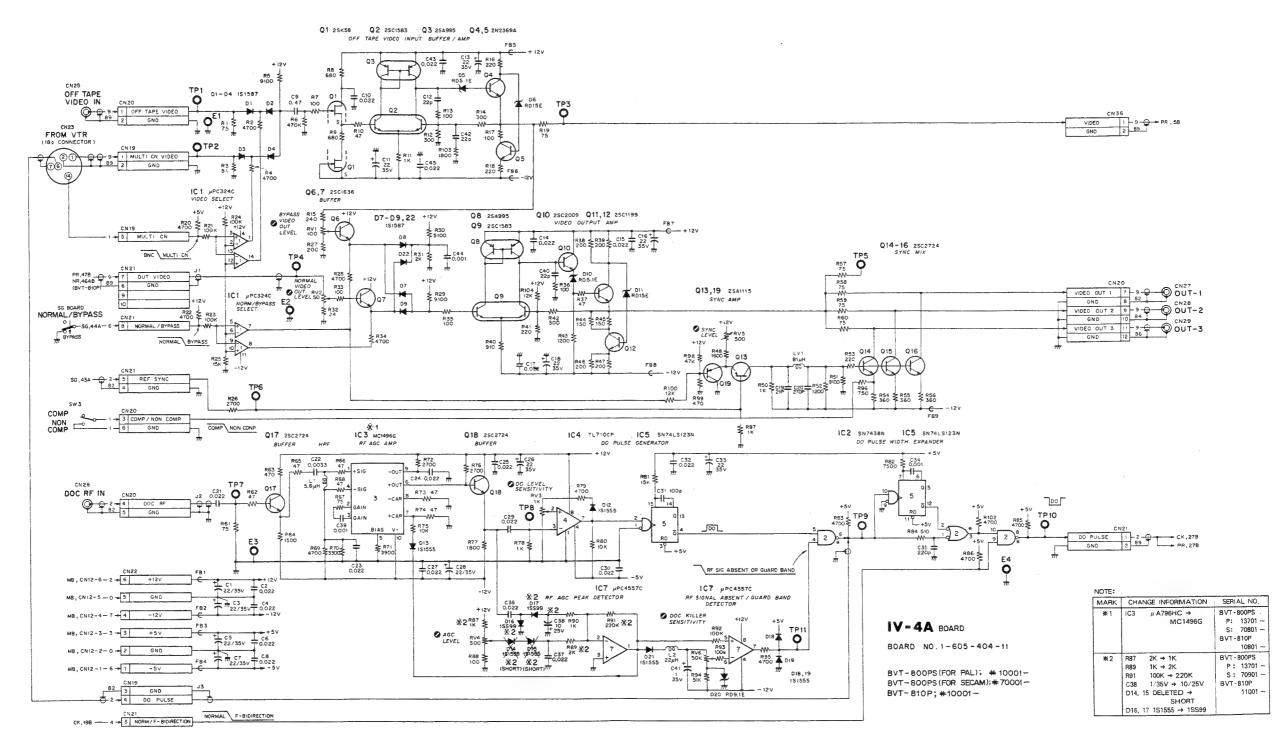


O RYZ12: CHROMA MULL (DELAY) O RYZ13: CHROMA MULL (LEVEL)



IV-4A BOARD

Input Video Amplifier Output Video Amplifier DO Detector

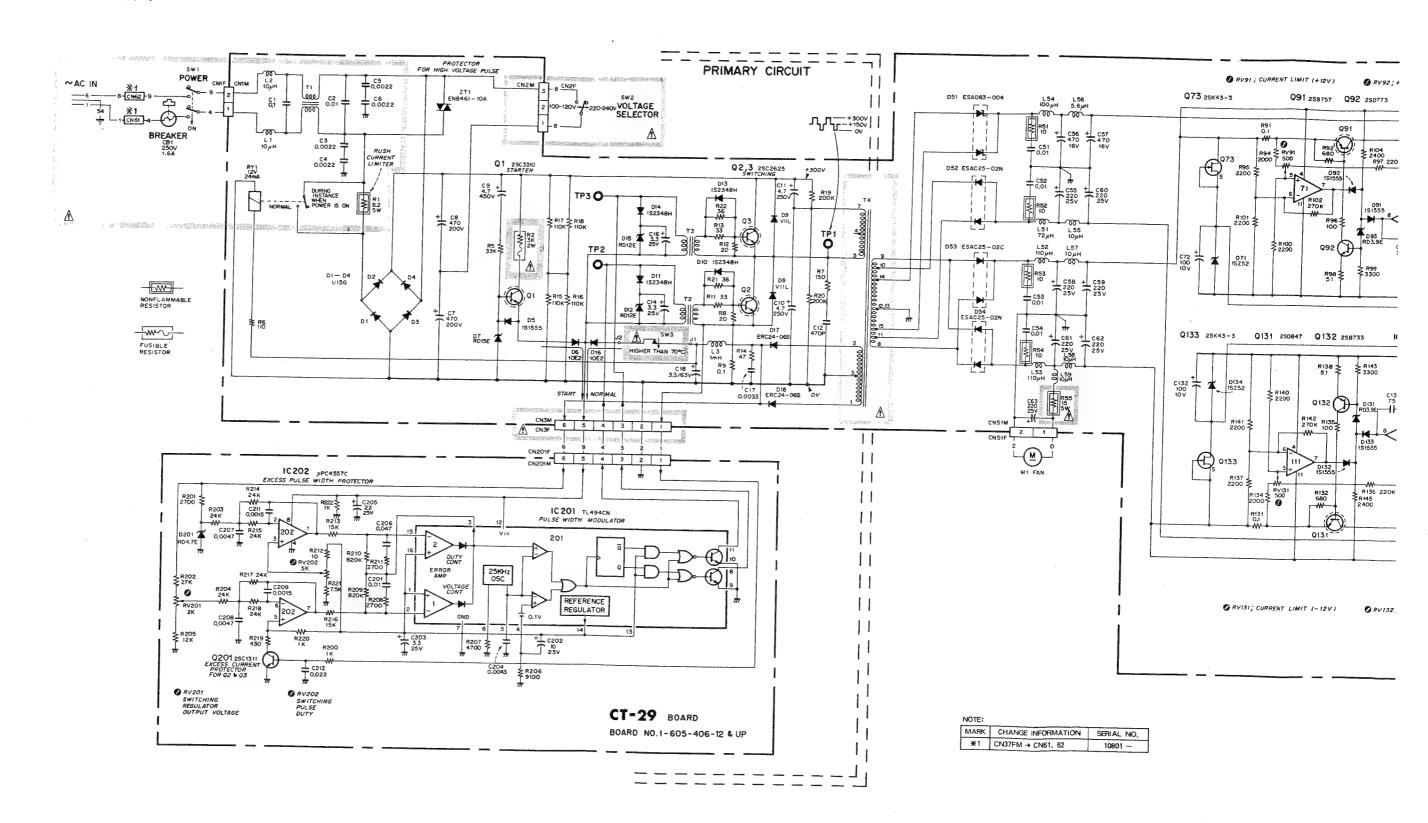


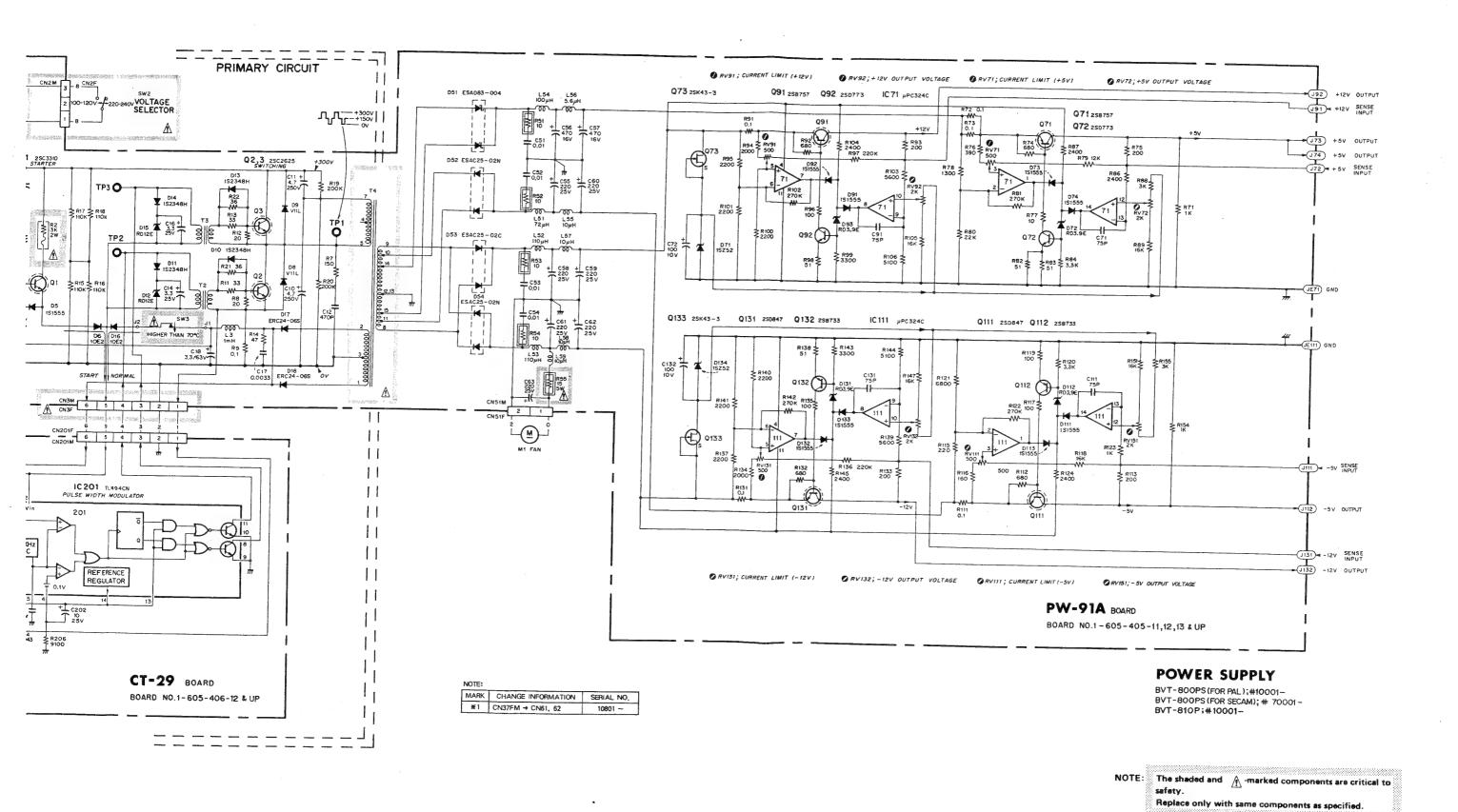
and the second of the second o

POWER SUPPLY

PW-91A BOARD

CT-29 BOARD ; Power Supply Control

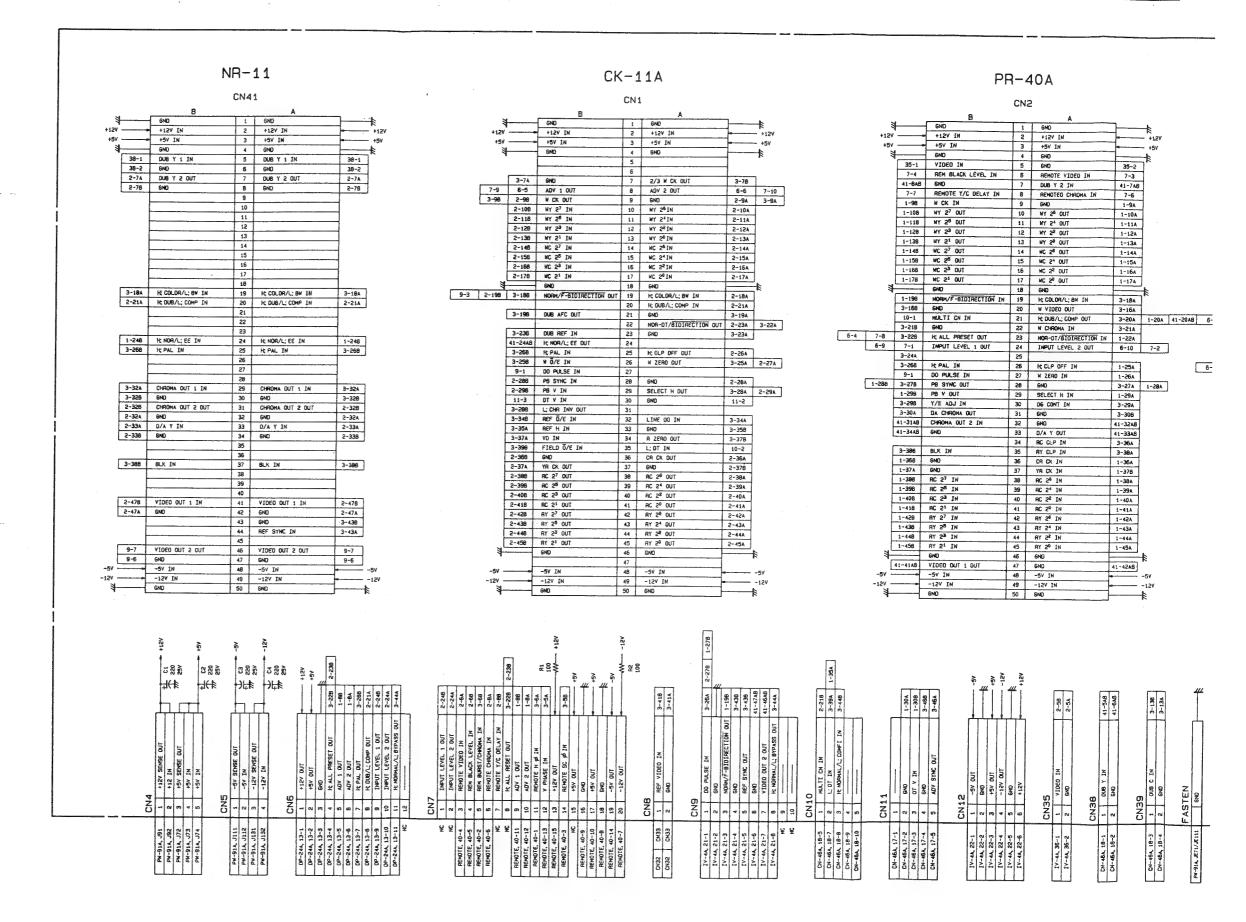


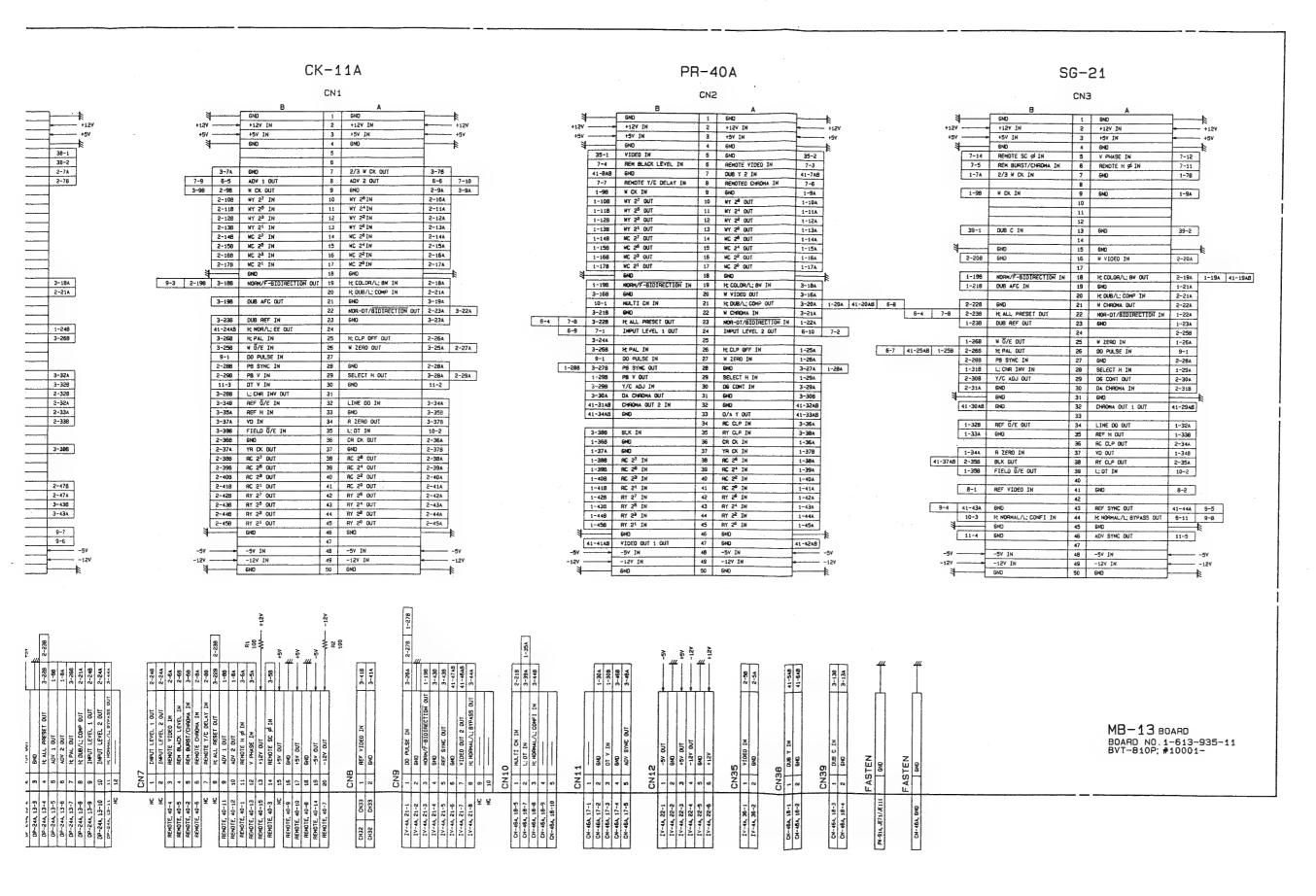


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23-70

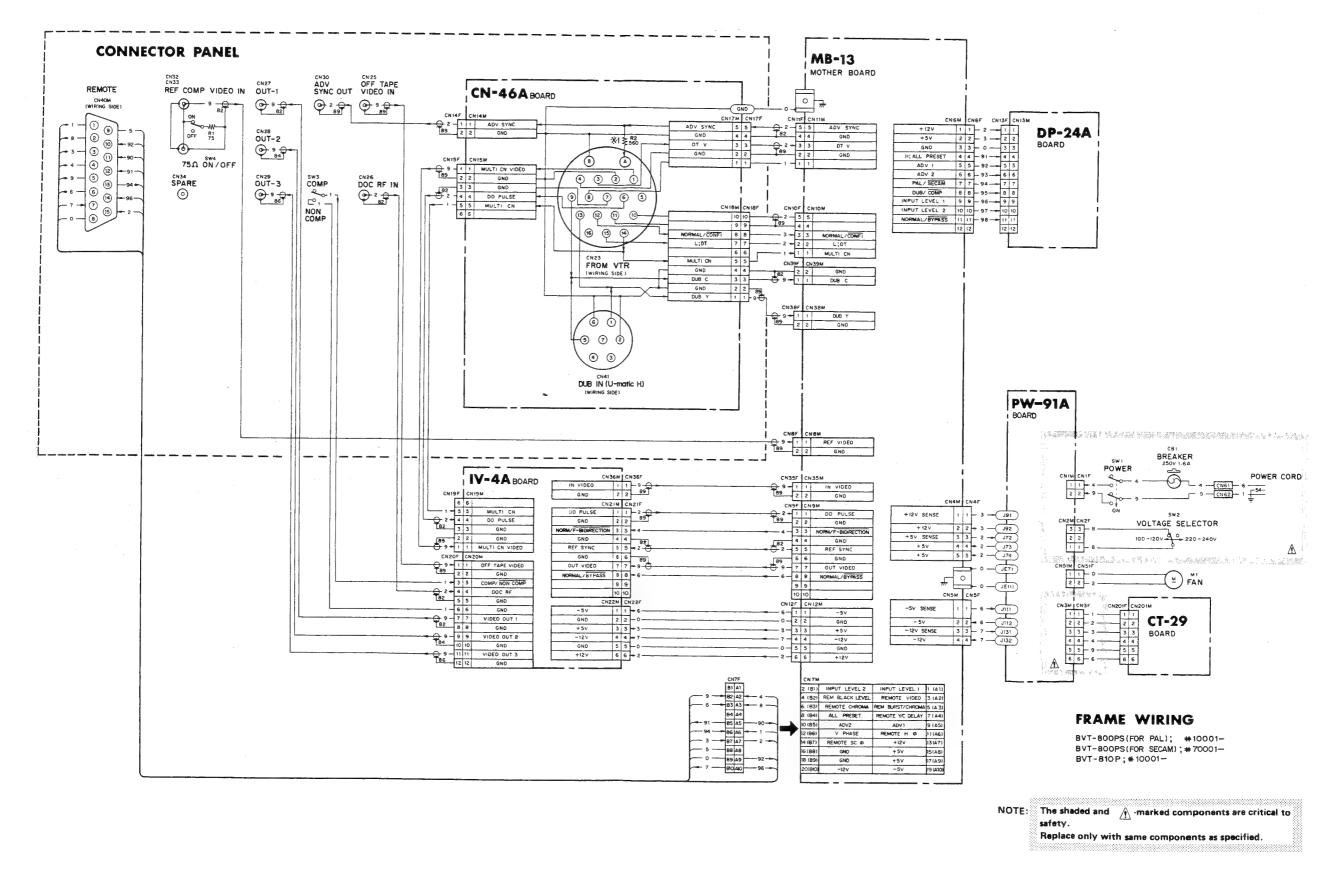
MB-13 BOARD ; MOTHER BOARD





FRAME WIRING

CN-46A BOARD : Relay Board



الإراد فالمرازي والمراجع والمسترا والمرازي والمرازي والمسترا والمستحور والمرازي والمرازي والمرازية

SECTION 24 PRINTED WIRING BOARDS

PRINTED CIRCUIT BOARDS

The circuit information is provided below.

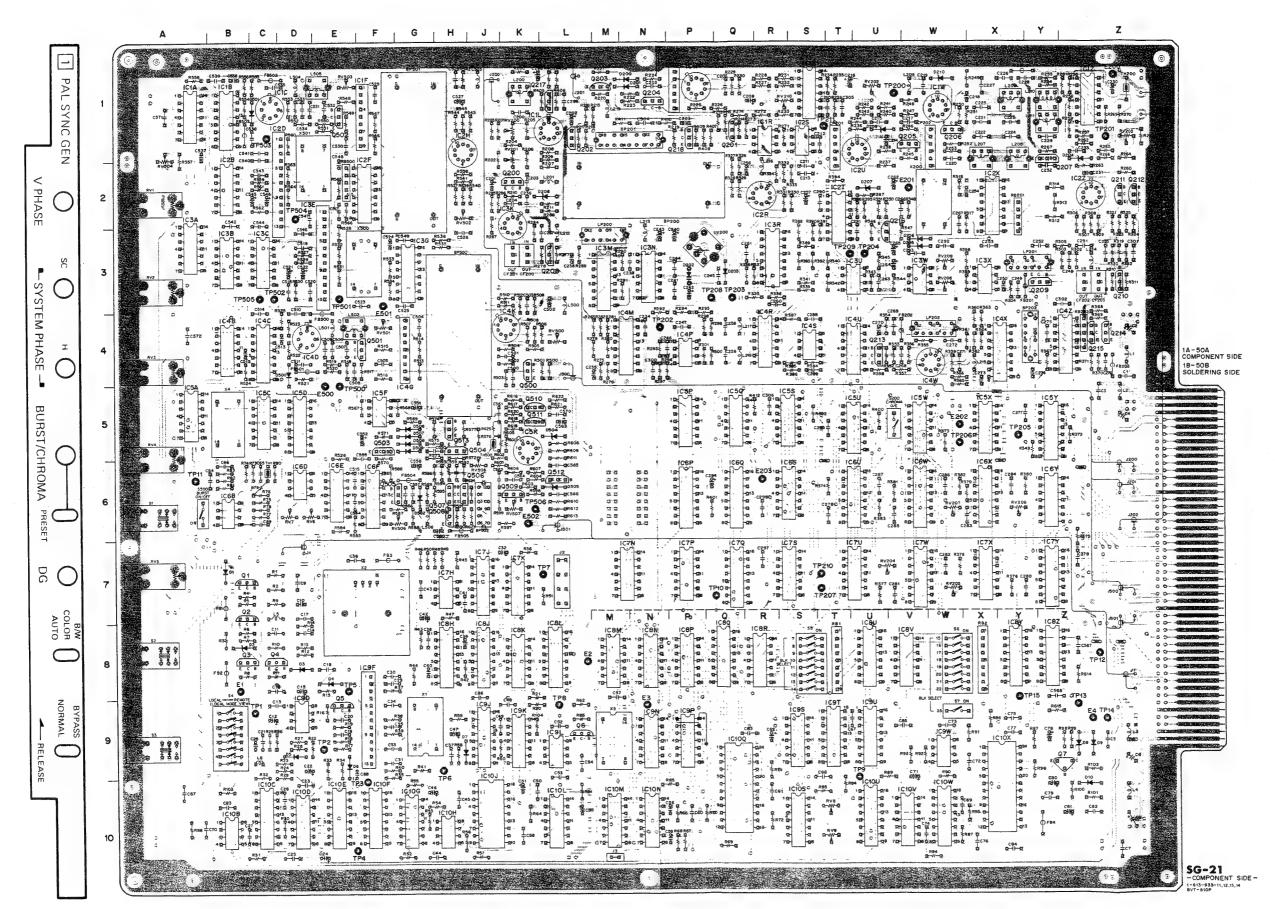
BOARD	CIRCUIT FUNCTION	PAGE
CK-11A	CLOCK GENERATOR	24-15
CN-46A	RELAY BOARD	24-40
CT-29	POWER SUPPLY CONTROL	24-34
DP-24A	DISPLAY	24-28
EB-9A	EXTENSION BOARD	24-45
IV-4A	VIDEO AMPLIFIER	24-28
MB-13A	MOTHER BOARD	24-40
NR-11	NOISE REDUCER	24-21
PR-40A	PROCESSOR	24-9
PW-91A	POWER SUPPLY	24-34
SG-21	PAL SYNC GENERATOR	24-2
SG-21		24-

SG-21

1 SG-21 BOARD

Г	Ref.		1		in No.		_	Ref.		1	1	Pin No.	-	$\overline{}$
	No.	Туре	+12V		GND	-5V	-12V	No.	Type	+12V		GND	-5V	-12V
H	IC1A	SN74LS164N	1120	14	7	- 51	121	IC6F	SN741.S221N	1	16	8		
- 1	IC1B	SN74221N	1	16	8			IC6P	SN74LS123N	1	16	8		í I
- 1	IC1C	и A760HC	1	8	5	4		IC6Q	SN74LS175N		16	8		(I
- 1	IC1F	BX365A	3		4.7	1	9	IC6S	SN74LS74AN		14	7		/ I
- 1	IC1L	MC1496G	"		-,,	-	10	IC6U	SN74LS221N	-	16	8		i I
H	IC1P	MC1496G					10	IC6W	SN74LS221N	+	16	8		
- 1	IC1R	μPC4557C	8				4	IC6X	SN74LS221N	ŀ	16	8	-	1 I
- 1	ICIS	TL084CN	4			1	11	IC6Y	SN74LS04N	1	14	7		! I
- 1	IC1W	MC1496G	*				10	IC7H	TL082CP	8				4
	IC1Z	CA3054	_		_	_	_	IC7J	SN74LS123N		16	8		
1	IC2B	SN74LS11N	1	14	7	_		IC7K	SN7474N		14	7		
- 1	IC2D	BX381	2	A-9	6		9	IC7N	SN74LS164N	1	14	7		1 1
- 1	IC2F	HD10131	-	1,16	8		ľ	IC7P	SN74LS164N		14	7		i I
l	IC2H	MC1496G	ĺ	1, 10	"		10	IC7Q	SN74LS163AN		16	8		ı
ı	IC2R	MC1496G					10	IC7S	SN74LS113AN		14	7		
ŀ	IC2S	TL607CP	8		1	_	5	IC7U	SN74LS11N	+	14	7		
- 1	IC2T	TL084CN	4		1		11	IC7W	SN74LS221N		16	8		
- 1	IC2U	MC1496G	1				10	IC7X	SN74LS74AN		14	7		
- 1	IC2X	HD10131	1	1.16	8		10	IC7Y	SN74LS221N	1	16			
- 1	IC2Z	MC1496G		1, 10	ľ		10	IC8H	SN74LS123N		16	8	ł	1
- 1	IC3A	SN74LS164N	+	14	7		10	IC8J	SN74LS163AN	1	16	8		-1
- 1	IC3B	SN74LS04N		14	7			IC8K	SN74S51N		14	7		1 1
- 1	IC3C	SN74LS11N	1	14	7			IC8L	SN74S175N		16	8	1	l
ı	IC3E	BX381	2	14	6		9	IC8M	SN74LS04N		14	7		
- !	IC3G	HD10131	1 -	1, 16	8		,	IC8N	SN74LS74AN	1	14	7	1	1 1
- 1	IC3K	MC1496G	+	1, 10			10	IC8P	SN74LS113AN	-	14	7		-1
1	IC3M	HD10131		į į	1, 16	8	10	IC8Q	SN74LS365AN	1	16	8		1
ı	IC3N	MC1648P	1		1, 14	7,8		IC8R	SN74LS164N		14	7		
- 1	IC3R	HII - 0201 - 5	13		5	1,0	4	IC8U	SN74S133N		16	8		1 1
- 1	IC3U	TL082CP	4	1	"		8	IC8V	SN74LS164N	1	14	7		
H	IC3W	TL601CP	8	-	1	_	5	IC8Y	SN74S133N	+	16	8		
- 1	IC3X	# PC4558C	8	ł	*		4	IC8Z	SN74LS221N	1	16	8		
- 1	IC4B	SN74LS164N	l °	14	7		4	IC9D	TL082CP	8	10	"	1	4
- 1	IC4B	SN74221N	1	16	8			IC9E	BX381	2		6		9
- 1	IC4C IC4D	μ A760HC	1	I	5		1	IC9J	SN74221N	1 -	16	8		"
- 1	IC4G	BX365A	3	- 8	4,7	4	9	IC9U	SN7406N	+	14	7	-	
- 1	IC4G	MC1496G	1 °		4, 1		10	IC9L	TL601CP	8	14	1	1	5
I	IC4M	HD10131		1 10	8		10	IC9L	SN74LS00N	"	14	7	Į.	
ĺ	IC4P	TL082CP	8	1, 16	°		4	IC9P	SN74LS74AN		14	7		}
			1 -		1			IC9S	SN74LS393N	1	14	7		
ŀ	ICAR ICAS	TL084CN MB4002	8	1	-	_	11	IC9S IC9T	SN74LS393N SN74LS221N	+	16	8	\vdash	
I		MB4002 SN74LS113AN	8	14	7		4	IC91	SN74LS22IN SN74LS175N		16	8		
- 1	IC4U IC4W	MC1496G		14	1		10	1C9U	M51841P	1	10	°		
- 1				1 10	١.		10		TL082CP	В			ĺ	4
-	IC4X	HD10131		1, 16	8	8		IC10B IC10C	SN74LS123N	l °	16	8		1 "
1	IC4Z IC5A	HD10116 SN74LS164N	+	14	1, 16	- 5		ICIOC	SN74LS123N SN75207BN	+	14	7	13	+
- 1	IC5A IC5C	SN74LS164N SN74S86N		1	7 7			IC10E	SN74LS191N		16	8	10	
1		1		14	8	1		IC10E	SN74LS191N SN74265N		16	8		
	IC5D	SN74LS163AN	8	16	8		4	IC10F	SN74LS20N	1	14	7		
1	IC5F	μ PC4557C	. 5				10	IC10G	TL082CP	8	14	1 '		4
-	IC5K	MC1496G	+-	14	7	-	TO	IC10H	CX7903	+ "	2	14	+	+
	IC5P	SN74LS393N		14					SN74LS393N	1	14	7	į.	
	IC5Q	SN74LS86N SN74LS00N	1 .	14	7	1		IC10L IC10M	SN74LS393N SN74LS30N	1	14	7	1	
1	ICSS		1	14	7				SN74LS86N	1	14	7		
	IC5U	SN74LS08N		14		1		IC10N			24	12		
1	IC5W	SN74LS00N	+	14	7	-		IC10Q	CX773A SN74LS164N		14	1 12	+	+
	ICSX	SN74LS04N	1	14	7			IC10S		1	16	8		
	IC5Y	SN74LS191N	1	16	8			IC10U	TC4040BP	1	1	7		
.	IC6B	HA17458GS	8		١.		4	IC10V	TC4012BP	1	14	8		
	IC6D	TL601CP	8	l	1	-	5	IC10W	SN74LS221N	-	16	12		
	IC6E	SN74LS00N	1	14	7			IC10X	CX773A		1 24	12		1

Q507 Q508 Q509 Q510 Q511 Q512 Q513	LV200 21 22 23 24 24 25 26 27 200 200 200 200 200 200	E502	E1 E2 E3 E4 E200 E201 E202 E203 E500 E501	011 122 133 144 155 166 177 188 199 1110 12200 12201 12202 12203 12204 12205 12207 12208 12207 12208 12207 12208 12207 12208 12209	P200 P201 P202
H - 6 H - 6 K - 6 K - 5 L - 6 H - 5	P - 3 - 7 - 7 - 8 - 8 - 9 - 9 - 2 - 1 - 1 - 1 - 1 - 1 - 2 - 3 - 3 - 2 - 2 - 4 - 4 - 4 - 3 - 1 - 1 - 4 - 4 - 1 - 5 - 5 - 6 - 6 - 6 - 6 - 6 - 5 - 5 - 5	0	B - 8 L - 8 N - 9 Z - 9 Z - 1 W - 2 W - 5 R - 6 E - 5 F - 3	B - 7 8 8 8 9 9 9 9 11 1 2 2 2 - 1 1 2 2 2 1 1 3 2 2 2 1 2 2 1 2 2 2 3 3 2 2 2 3 3 3 3	P - 1 T - 1 W - 1
X1 X2 X3 X4 X200 X500 X501	TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP200 TP201 TP202 TP203 TP204 TP205 TP206 TP207 TP208 TP207 TP208 TP207 TP210 TP210 TP210 TP501 TP501 TP501 TP501 TP502 TP503	TH200 TP1	S1 S2 S3 S4 S5 S6 S7 S200 S500	RB202 RB500 RV1 RV2 RV3 RV4 RV5 RV6 RV7 RV8 RV9 RV200 RV201 RV202 RV203 RV204 RV205 RV206 RV207 RV208 RV207 RV208 RV209 RV210 RV500 RV501 RV500 RV501 RV500 RV501 RV500 RV501 RV500 RV501 RV506 RV507 RV508	RB1 RB2 RB201 RB202
G - 9 F - 7 M - B - 8 W - F - 8	CE-991-118-97-9-118-97-9-118-97-9-118-97-9-118-97-9-118-97-9-118-97-9-118-97-9-118-97-9-118-97-9-118-9	Z - 1	A - 6 A - 8 A - 9 B - 9 S - 8 W - 8 W - 9 U - 5 A - 6	A - 2 A - 3 A - 4 A - 5 A - 7 D D - 6 6 A - 5 T D D - 7 T - 100 T T - 100 T K K - 1 T U Z - 1 T W X - 6 A W W - 3 A - 5 T B - 6 A - 1 T B - 4	T - 8 X - 8 X - 2 Z - 4

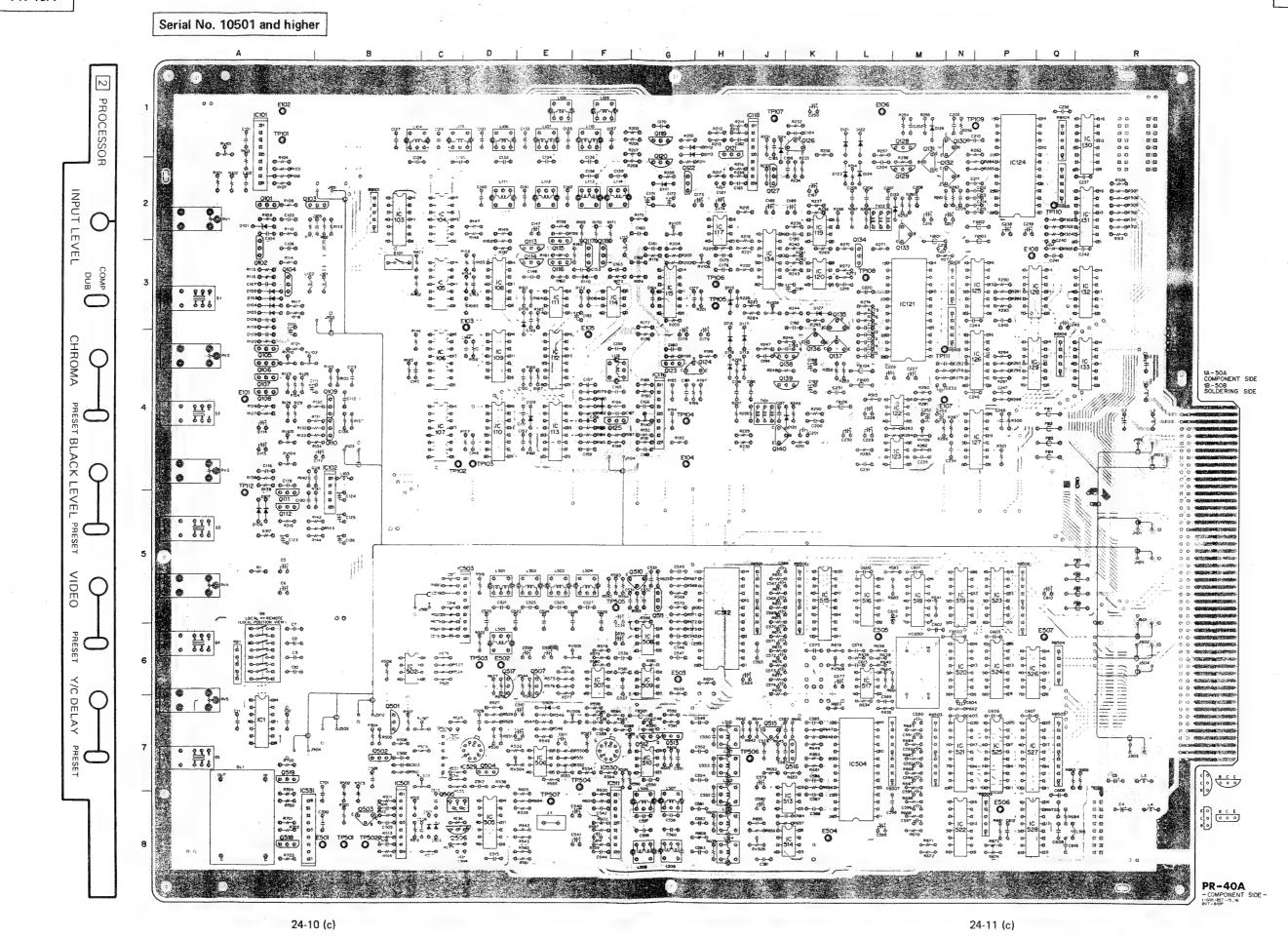


24-4

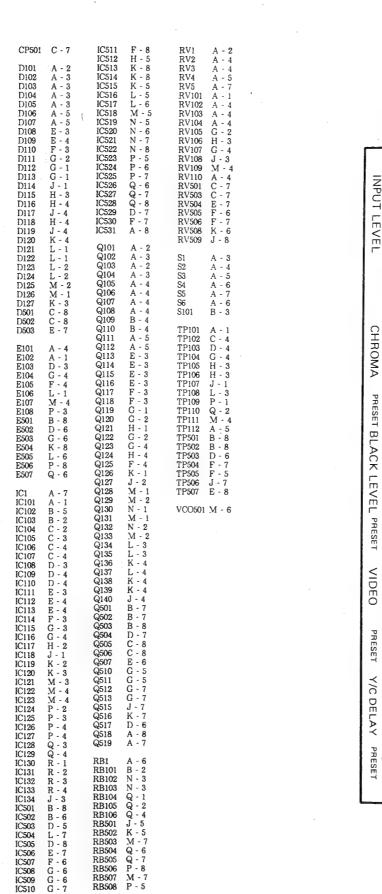
RV506

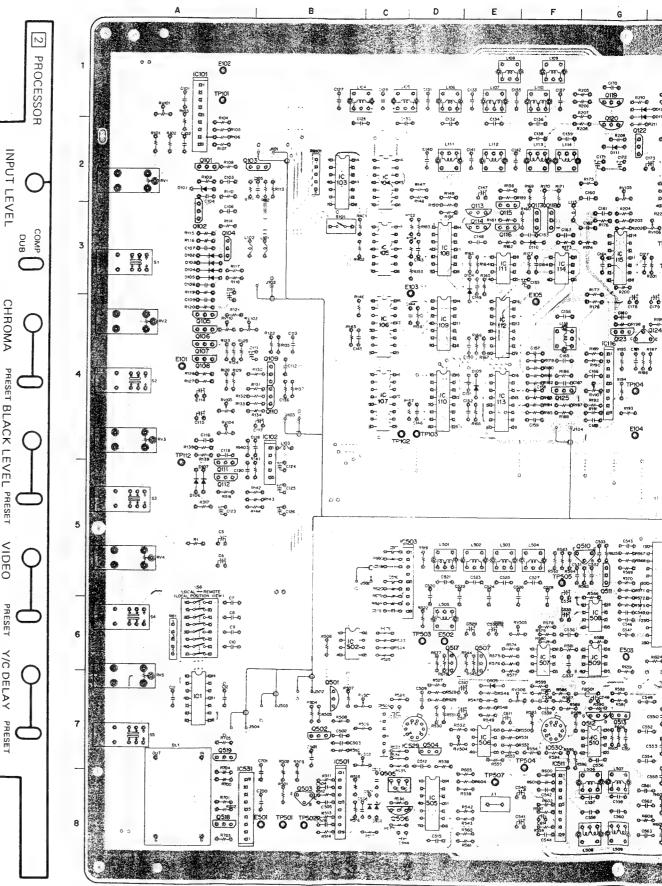
TP101 TP102 TP103 TP104 TP105 TP106 TP107 TP109 TP110 TP111 TP111 TP502 TP503 TP504 TP505 TP505 TP506 TP507

VCO501 M - 6



		_				
	Туре	1 100	1	Pin No		1011
300 300	\$	+12V	+50	GND	-5V	
30201	μ PC324C	3		1	1	11
	BX365A TA7060AP		[Refer	4,7	 chemat	
10702 10703		1 '	14	to s	cnemat 	ic
1004	SN74LS00N	4	14	1 '	ı	1,,
10025	μ PC324C SN7406N	4	14	7	-	11
10006	SN74LS123N		16	8 -	1	
12767	SN74LS191N	1	16	8	ĺ	
30308	μ PC319C	11	10	3, 8		6
1.729	SN74LS11N	111	14	7		"
10.10	SN74LS123N	-	16	8	-	\vdash
Citt	TL082CP	8	10	1		4
10112	HII -0201 - 5	13	1	5		4
10:13	HA1 - 4905	8		"	1	4
	TL082CP	8				4
10:14 10:15	μ PC319C	11		3, 8		ε
1C.16	BX365A	3	l	4,7		9
C117	TL082CP	8		-, .		4
10118	BX365A	3		4.7		9
10119	TL082CP	8				4
10°19 10°120	μ PC4557C	8				4
17:21	CX20052	F	efer	to so	hemati	ic
17,22	TL082CP	8		1		4
17:23	TL601CP	8		1		5
IC124	CX20052	R	efer	to so	hemati	c
17.25	HD10125		9	16	8	
321.26	HD10125		9	16	8	
CI	SN74LS221N		16	8		
)	SN74LS02N		14	7		
17.29	SN74LS74AN		14	7		
10.30	HD10125		9	16	8	
17.31	HD10125		9	16	8	
107.32	SN74S04N		14	7		
10.73	SN74LS04N		14	7		
17:34	H11 - 0201 - 5	13		5		4
10571	BX365A	3		4, 7		9
10502	μ PC4557C	8				9
10503	BX365A CX20051		efe r	4,7	ļ	- 1
10304			erer	to sc	hemati	_
)CS06	CA3102E μ PC4557C	8	_	-		4
1037	μ PC4557C	8				4
1032	TL082CP	8				4
1339	TL601CP	8		1		5
UEN	TL082CP	8		.		4
ICE 11	BX365A	3		4.7		9
105:2	CX20051		efer		hemati	- 1
LT:3	TL082CP	8		1		4
10514	TL601CP	8		1	- 1	5
10315	SN74LS273N	-	20	10	Į	-
DEGE	SN74LS04N		14	7		
30517	μ PC4557C	8			-	4
10518	SN74LS86N		14	7	.	
10519	SN74LS670N		16	8		
)DEEC	SN74LS163AN		16	8		
1.22	SN74LS273N		20	10		
30000	HD10116			1, 16	8	
)CET	SN74LS670N		16	8		
)CE44	SN74LS163AN		16	8		- 1
10225	SN74LS240N		20	10		
)CE26	SN74LS04N		14	7		
1000	SN74LS374N	ļ	20	10	ļ	
1000	SN74LS221N		16	8	1	
10525	MC1496G				nematio	
00230	MC1496G				nematio	
LEH.	BX365A	3		4,7		9

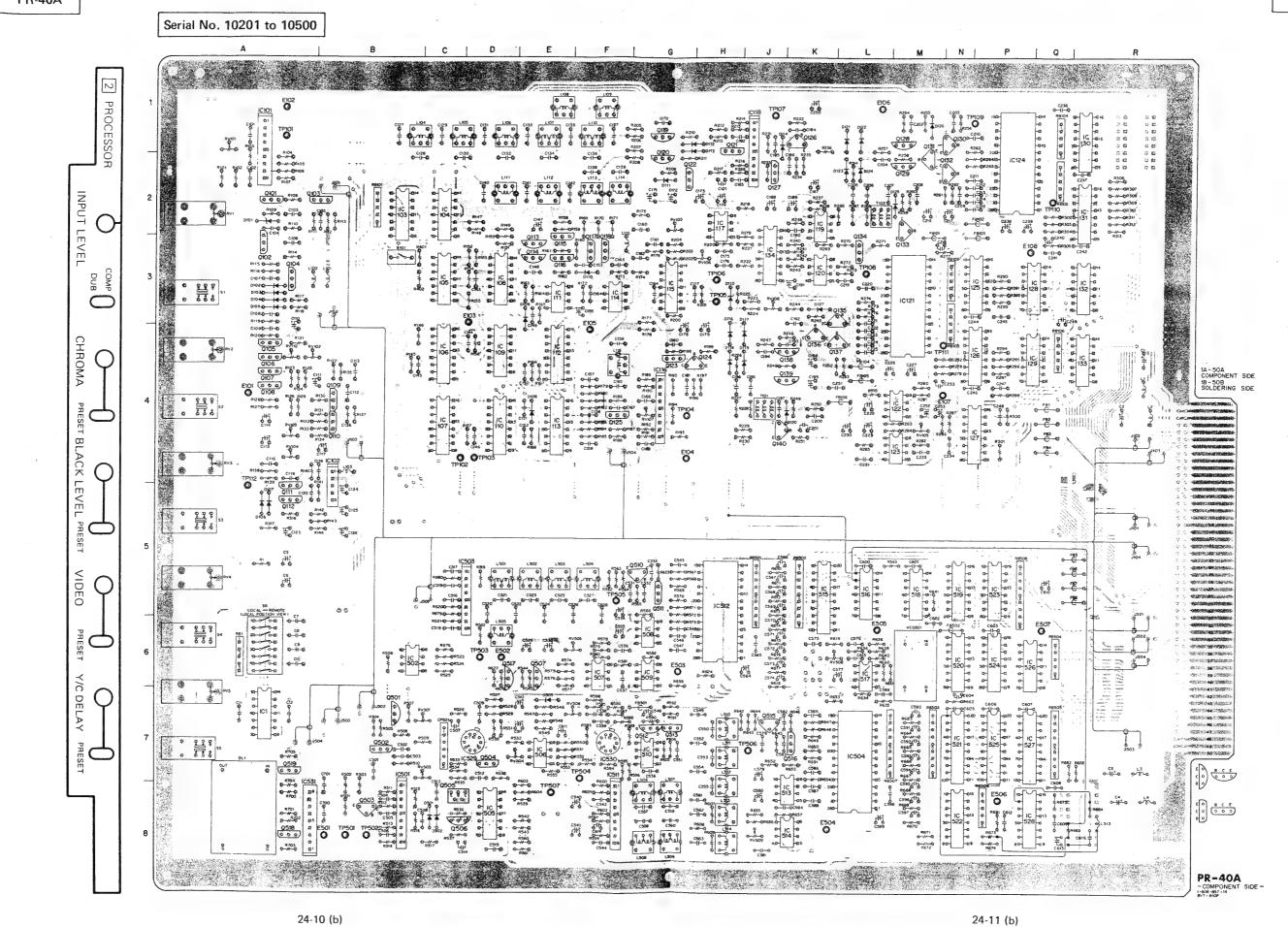




Serial No. 10501 and higher

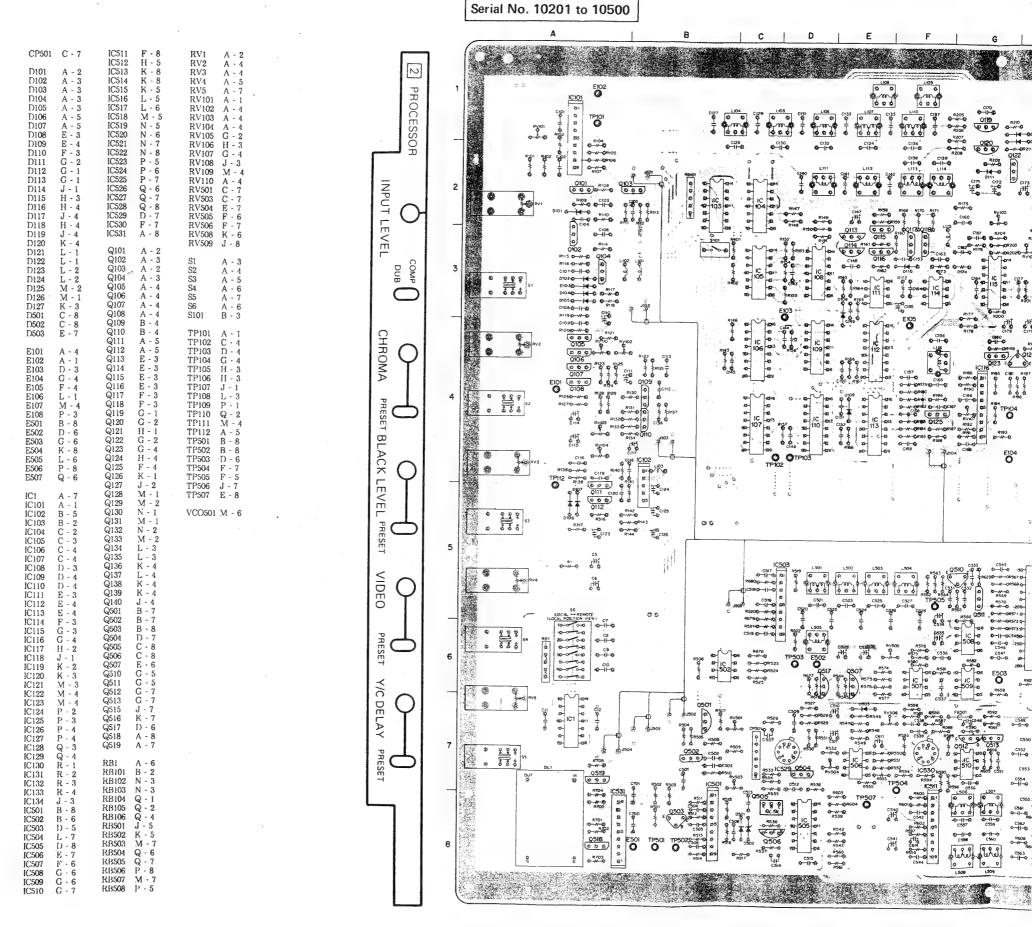
RV1 RV2 RV3 RV4 RV5

VCO501 M - 6



2 PR-40A BOARD

	Ref.	1			Pin No		
	No.	Туре	1 121	/ 15\			12\
	IC1	# PC324C	4	110	0.41	30	111
	IC101	BX365A	3	İ	4.7		9
	IC102	TA7060AP		Refer		chemat	
	IC103	SN74LS00N		1 14	1 7		1
	IC104	# PC324C	1				11
	IC105	SN7406N		14	7		1
	IC106	SN74LS123N		16	8	i	
	IC107	SN74LS191N		16	8		
	IC108	μ PC319C	11	-	3, 8		6
	IC109	SN74LSHN		14	7	-	
	IC110	SN74LS123N		16	8		
	IC111	TL082CP				1	4
	IC112	HII -0201 - 5	13		5	İ	4
i	IC113	HA1 - 4905	8		ĺ		4
	IC114	TL082CP	8				4
	IC115	μ PC319C	11		3.8	i	6
	IC116	BX365.A	3	1	4.7		9
1	IC117	TL082C12	8		i		4
İ	IC118	BX365A	3		4.7	[9
	IC119	TL082CP	8			ļ	4
	IC120	μ PC4557C	8	1-6	1		4
	IC121	CX20052 TL082CP	8	lefer I	to s	chemati	c 4
i	IC122 IC123	TL601CP	8		1	i	5
	IC124	CX20052		l Refer		hemati	' '
	IC124	HD10125		9	16	8	
- 1	IC126	HI)10125		9	16	8	
	IC127	SN74LS221N		16	8	"	
- 1	IC128	SN74LS02N		14	7	! !	
ı	IC129	SN74LS74AN		14	7		
	IC130	HD10125	-	9	16	8	
ł	IC131	HD10125		9	16	8	ļ
	IC132	SN74S04N		14	7	j	
-	IC133	SN74LS04N		1-4	7	1 1	- 1
-	IC134	HII - 0201 - 5	13		5	! !	4
ſ	!C501	BX365A	3	1	4.7		9
. [IC502	μ PC4557C	8			1 1	- 4
1	IC503	BX365A	3	J	4,7		9
-	IC30-1	CX20051	F	lefer	to so	hematic	٠
ŀ	IC505	CA3102E	-	<u> </u>	-		
-	IC506	μ PC4557C	8				4
- 1	IC507	μ PC4557C	8			[4
-	IC508	TL082CP	8				4
-	1C509 IC510	TL601CP TL082CP	8	Ì	1		5
ŀ	IC510	BX365A	3		4, 7		9
ł	IC512	CX20051		efer		l hematic	- 1
1	IC513	TL082CP	8	101	1 2		4
1	IC514	TL601CP	8		1		5
-	IC515	SN74LS273N	"	20	10		- 1
ı	IC516	SN74LS04N		14	7		\neg
-	IC517	μ PC4557C	8				4
1	IC518	SN74LS86N		14	7	-	
1	IC519	SN741,S670N		16	8		
L	IC520	SN74LS163AN		16	8		
ſ	IC521	SN74LS273N		20	. 10		
1	IC522	HD10116			1.16	8	- 1
1	IC523	SN74LS670N		16	8		
1	IC524	SN74LS163AN		16	8		
L	IC525	SN74LS240N		20	10		
	IC526	SN74LS04N		14	7		
	IC527	SN74LS374N		20	10		-
	1C528	SN741.S221N	, n	16	8		
1	IC529 IC530	μ A796HC μ A796HC				nematic	
+	IC531	н А796ПС ВХ365А	3	ra tal	4,7	hematic	9
L	IX GOT	7771AUCT	U		4, ()		



RV1 RV2 RV3 RV4 RV5

RV101 RV102

RV105 RV106 RV107

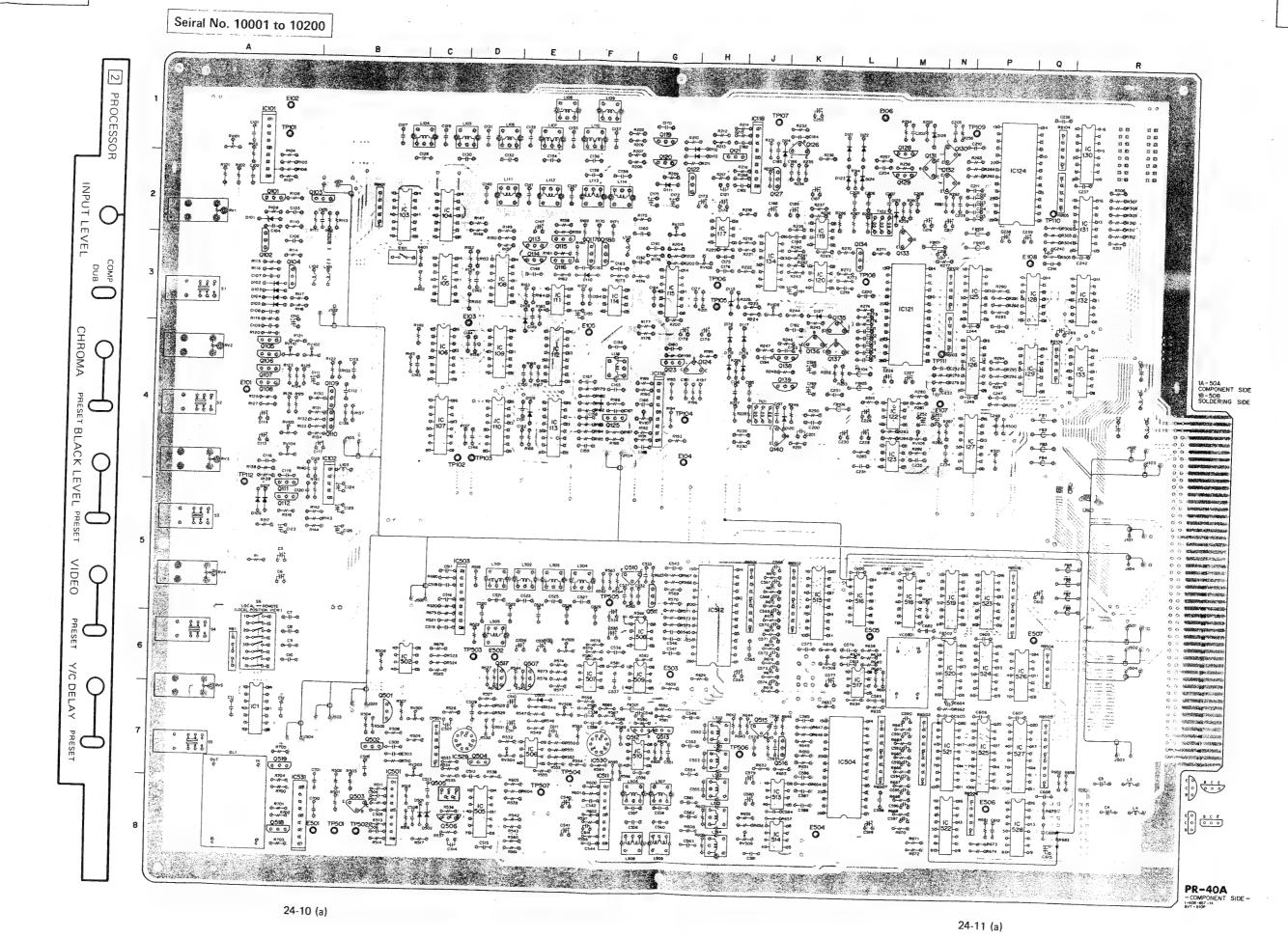
RV110

RV501 RV503 RV504 RV505 RV506

TP101 TP102 TP103 TP104 TP105 TP106 TP107 TP108 TP109

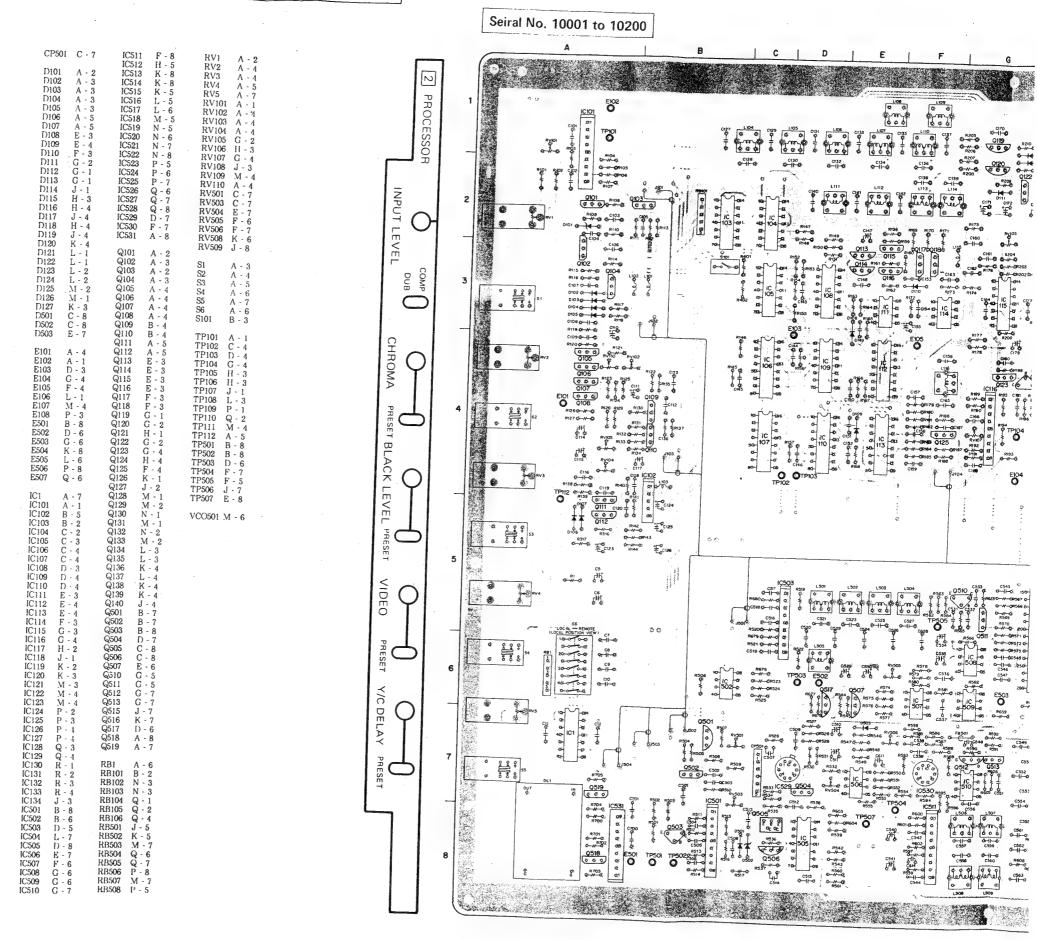
TP109 P - 1 I
TP110 Q - 2
TP111 M - 4
TP112 A - 5
TP501 B - 8
TP503 D - 6
TP504 F - 7
TP505 F - 5
TP506 J - 7
TP507 E - 8

VCO501 M - 6



2 PR-40A BOARD

		Ref .		_	_	1		_			_		_	
		No.	Туре			1	12V	П		in N		5V		121
	IC		μ PC324C		_	-	4	ŕ	-	(J. VI.	+	31	+	11
		101	BX365A				3			4, 7				9
		102	TA7060AP SN74LS00N				R	efe			che	mat	ic	
		104	# PC324C					1.	1	7				
		105	SN7406N		_	-	•	1	1	7	+-	_	+	11
		106	SN74LS123N				1	16		8			1	
		107	SN74LS191N				ſ	16		8	-			
	iCi		μ PC319C SN74LS11N			11	1			3, 8				6
	ICI		SN74LS123N	_	+		+	14		7 8	┝	-	L	_
	IC1		TI.082CP		1	8		10						4
	ICI		101-0201-5		- 1	13	- 1			5				4
	IC1		HA1 - 4905		-	8						ļ		4
	IC1		TL082СР # РС319С		+	11	+	_	1		_			4
	ICI		BX365A		ļ	3				. 8		- 1		6
	IC1		TL082CP			8			1,	`			4	1
	ICI	- 1	BX365.A		1	3			4	. 7			5	
	IC11		TL082CP	_	4	8	1	_	_				4	
	IC12	j	μ PC4557C CX20052			8	Ref			ĺ			4	
	IC12		TL082CP			8	rten	er	to I	sch	em	atic I	-1	.
	IC12	3 1	L'601CL			8				1		ĺ	5	
	IC12	_	X20052		1		Refe		to	sch	('ma	atic		
	IC12		II 110125 II 210125					9	H		8		_	
	IC12		N74LS221N				Ι.	9	10		8	i		1
	IC12		N74LS02N		-		1 '	4	1 :			1		
	IC12	_	N74LS74AN					4	1					1
	IC130		D10125					9	16		8			1
	IC131	3	D10125 N74S04N				1	9	16		8			ſ
	IC133	-	N74LS04N				1		7	ĺ		ĺ		1
	IC134	H	11 - 0201 - 5		1	3			5				-1	ł
	IC501		X365A			3			4.	7	-	1	9	1
	IC502 IC503	1 '	PC4557C X365A			В				1		l	4	l
	1C504	1	K20051		1	3	l efer	. !	4.7			1	9	
	IC505		A3102E				HIET	i	lo	sche:	nat -	1C		ļ
	IC506		PC4557C		8	3	_	7		+		-	4	1
	IC507		PC4557C	ı	8							1	4	-
	IC508 IC509		.082CP .601CP	Î	8					ļ			4	
	IC510		.082CP	- 1	8			1	1				5	
	IC511		365A	7	3			+	4.7	+-	-	-	9	
	IC512		20051			Re	fer	t		chen	nati		1	
	IC513 IC514		082CP	-	8	Į				1		4	1	
į	IC514		601CP 74LS273N		8		~	-	1		j	5	,]	
1	IC516		74LS04N	+		+	14	+	7	-	-	_	4	
ı	IC517		C4557C	1	8		14		1	1	İ	4	ı	
i	IC518		4LS86N				14		7		-[1		
ŀ	IC519		4LS670N			1	16		8				ļ	
ŀ	IC520 IC521		4LS163AN 4LS273N	+	_	+	16	+	8	_	1		_	
1	IC522		0116	1			20		10 , 16	8	1		l	
l	IC523		4LS670N			}	16	ľ	.8	°	1		1	
ĺ	IC524		ILS163AN				91	1	8	ĺ	į			
ŀ	IC525 IC526		4LS240N 4LS04N	+			20	1	10				_	
	IC527		4LS374N	i			14 20	1.	7				1	
	IC528		4LS221N				20 16		8					
	IC529		796HC	1		Refe	er	to		nema	tic			
	IC530	# AT	96HC	1	- 1	Refe	ar.	to	col	nome	110		1	



3 CK-11A BOARD

Re	ſ		1	Pin No			Ref			$\overline{}$		Pi	n No		
No	Type	+12V				12			Type	4.1	2V +			-51	121
IC1I		2		6	1	9	IC5V		MSM5128 · 12RS					-31	12
		1 - 1				1 3				- 1	1 1	24	12	1	
ICIO		1	16	. 8	1	1	IC5V		MSM5128-12RS		2	4	12		1
IC11		1 1	14	7			IC5X		SN74LS374N	- 1	1 2	n l	10	ļ	ŀ
ICIE	E SN74LS163AN	1 1	16	8		1	IC5Y	,	SN74LS164N		١,	4	7	ĺ	1
IC1F	SN74LS221N	1 1	16	8			IC6A		SN74LS423N	- 1	1 -	- 1			1
ICIO		++				-						6	8		-
		1 1	16	8	Į	ĺ	IC6B		SN74LS74AN	1	1	4	7		1
IC1F		1 1	14	7	İ		IC6C		SN74LS221N	ı	1	6	8		F
IC1F	SN74LS163AN	1 1	14	7		\$	IC6D	1	SN741_S08.N		1	4	7		
ICIL		1 1	16	8	f i	ĺ	IC6E			1	1 -				1
		1 1			i l			- 1	SN74LS14N		1	4	7		
ICIN			14	7			IC6F		SN74LS669N	- 1	1	6	8		
ICIN	SN74LS123N		16	8			IC6G		SN74LS669N		1	6	8		_
IC1P		1 1	16	8	1		IC6H				1 -	- 1	- 1		
		1 1		-					TBP28S42N		2	- 1	10		1
IC1R		1 1	20	10			IC6K	- 1	SN74LS114AN	1	1-1-	4	7		1
IC1S	SN74LS377N	1 1	20	10			IC6L	ı	SN74LS163AN		10	s [8]
ICIT	SN74LS377N	1	20	10			IC6M	rΙ	SN74LS158N	1	1 -				1
								4		-	14		8		_
ICIU			16	8	l f		IC6N	ı	SN74LS158N		16	5	8		
ICIV	MSM5128 - 12RS		24	12			IC6P	- 1	SN74LS158N	Ī	16	s I	8		
IC1W	MSM5128 - 12RS	1 1	24	12	1		IC6Q	- 1	MBM2149L - 55		18		9		
IC1X			20	10			IC6R								1 :
			- 1					- !	MBM2149L - 55	i	18		9		
IC1Y			14	7.			IC6S		MBM2149L - 55		18	3	9		1
IC2D	SN74LS10N	1 1	14	7	7		IC6T	Т	MBM2149L · 55		18		9		1
IC2E	SN74LS175N	1	16	8			IC6U	- 1	SN74LS166AN		16		8		
IC2F		F 1		7				- 1							
			14	. 1	i		IC6V		MSM5128 · 12RS	1	24	1	2		1 1
IC2G			16	8			IC6W		MSM5128 - 12RS		24	1	2		
IC2H	MB7051		16	8			IC6X		SN74LS374N	1	20		0		1 1
IC2K			16	1	-+		IC6Y		SN74LS164N	+	14		7		\vdash
IC2L					1					1					j l
			16	8		- 1	IC7A		SN74163N	1	16		8		1 1
IC2M		1 1:	14	7	Į		IC7B		SN74163N	1	18		8		i 1
IC2N	SN74LS00N		4	7			IC7C		SN74163N		16		8		
IC2P	SN74LS74AN	F 1		7	1	1				1					1 1
			4				IC7D		SN74LS221N	-	16		8		\perp
IC2Q			4	7	ĺ	,	IC7E	1	SN74S51N		14	-	7	- 7	7
IC2R	SN74LS374N		100	10		İ	IC7G		HI1 - 0201 - 5	13	12		5		4
IC2S	SN74LS374N	1 19	o l	10	- 1	- 1	IC7H	- 15	SN74LS175N	1					1
IC2T	SN74LS374N		n o		- 1	- 1				1	16		8		
		1 -	-	10		- 1	IC7K	- 13	SN74LS74AN		14	- 1 '	7	- 1	
IC2U	SN74LS166AN	1	6	8			IC7L		SN74LS161AN		16	Į	В		
IC2V	MSM5128 - 12RS	1 2	4	12			IC7M	73	SN74LS158N	1	16		В		
IC2W	MSM5128 - 12RS	2	u I	12		- 1	IC7N		SN74LS158N	1	1			- 1	
						- [i	16		В		
IC2X	SN74LS374N		0	10	1	- 1	IC7P		SN74LS158N		16	1 1	B	- 1	- 1
IC2Y	SN74LS164N	1	4	7		- 1	IC7Q	15	SN74LS163AN	1	16	1 1	8 l	- 1	ł
IC3A	TC4020BP	1	6	8		- 1	IC7R	15	SN74LS163AN	1	16			1	i i
IC3B	SN74LS74AN	1		7	-		IC7S			-				-	
		-				- 1			SN74LS374N	1	20	10		J	ļ
IC3C	SN74LS175N	1	- 1	8	- 1	- 1	IC7T		SN74LS374N		20	10	}	i	ĺ
IC3D	SN74LS164N	1	4	7	1	- 1	IC7U	1 5	SN74LS166AN		16	1 8	3		- 1
IC3E	SN74LS151N	1	6	8	ı	- 1	IC7Y		SN74LS164N	1	14	7		- 1	Į
IC3F	TC4020BP	1		8		- 1				i				ľ	- 1
						\rightarrow	IC8A		SN74S113N		14	1 7			
IC3G	SN74LS74AN	1	4	7	- 1	- 1	IC8B	18	SN74LS20N		14	7		- 1	
IC3H	SN74LS86N	1 1	4	7		- 1	IC8C	15	N74LS164N	1	14	1 7		- 1	- 1
IC3K	SN74LS04N	1		7			IC8D		N74LS04N		1			ı	
			1		- 1	- 1					14	7			ļ
IC3L	MSM5128 - 12RS	2	1	12	ì		IC8E	S	N74LSION	ĺ	14	7		- !	- 1
IC3N	MSM5128 - 12RS	2	1	12		- 1	IC8G	17	LO82CP	8	1	1	- (ŀ	4
IC3P	MSM5128 - 12RS	2	1	12			IC8H	is	N74LS00N	_	14	1 7	-	\rightarrow	
IC3Q	MSM5128 - 12RS	2		12	i	1	IC8K		N74LS114AN	1				- 1	- 1
		1 -			- 1	- 1				l	14	7		1	į
IC3S	MSM5128 - 12RS	2	- 1	12			IC8L		N74LS161AN		16	8		- 1	
IC3T	MSM5128 - 12RS	2	1 1	12		1	IC8M	IS	N74LS161AN		16	8			
IC3Ú	SN74LS166AN	16	: 1	8	1	- 1	IC8N		N74LS161AN		16	8		- 1	1
IC3V	MSM5128 - 12RS	2		12	-	-	IC8P							-	_
			- 1	- 1	- 1	ı			N74LS161AN		16	8			
IC3W	MSM5128 - 12RS	2/		12	- 1	- 1	IC8Q	Į S	N74LS161AN		16	8	- 1		- {
IC3X	SN74LS374N	20) 1	10	ì	- 1	IC8R	S	N74LS163AN		16	8		Į	i
IC3Y	SN74LS164N	14	ı I	7	1	Į	IC8S		N74LS08N		14	7	-	ĺ	- 1
IC4A	SN74LS163AN	16		8	- 6		IC8T				1				J
									N74LS32N		14	7	-	_	
IC4B	SN74LS221N	16		8	1	- 1	IC8U	S	N74LS166AN		16	1.0		- 1	1
IC4C	SN74LS175N	16	- 1	8	ĺ	1	IC8Y	S	N74LS164N		14	7		Į	1
IC4D	SN74LS74AN	14		7			IC9A		N74S113N		14	7		1	Ì
IC4E	SN74LS00N	14		7	1						14	1 1	1	- 1	
		1	- 1		1		IC9E		L082CP	8	1	1	ĺ	i	4
IC4F	SN74LS74AN	14		7			IC9G		D10125	-	9			8	[
IC4G	TBP28S42N	20	1	0			IC9J	S	N7406N		14	7		T	
IC4H	SN74LS174N	16		8	1		IC9K	S	N74LS00N		14	1 7	[i
IC4U	SN74LS166AN	16		8	1		IC9L		N741.S04N						1
IC4V	MSM5128 - 12RS	24		- 1				١٠.			14	7			1
		1		2			IC9M		N74LS74AN		14	7	1		ı
IC4W	MSM5128 - 12RS	24		2			IC9P	14	PC319C	11		8	1	- 1	6
IC4X	SN74LS374N	20	1	0	T		IC9R		N74LS221N		16	8	\top	-	-
IC4Y	SN74LS164N	14		7						c	1 .0	1 "		1	, 1
							IC9S		J.M4560F)	8	1	1			4
IC5A	SN74LS221N	16		8			IC9T		X381	2		6			9
IC5B	SN74LS151N	16	1	8			IC9U	T	L601CP	8	1	1	1		5
IC5C	SN74LS161AN	16		8	1		IC9V		N74LS10N	-	1.1	7		ì	- [
IC5I)	SN74LS393.N	14		7	-						14		+-	+	
							IC9W		N74LS164N		14	7			1
IC5E	SN74LS04N	14		7			IC9X	S	V74LS393.\`		14	7	1		1
IC5F	SN74LS669N	16	1 3	8	- 1	- 1	IC9Y		\741.S393\		14	7	1	- 1	ı
IC5G	SN74LS684N	20		0	4		IC9Z		N74LS175N				1	-	
IC5H	SN74LS669N				f						16	8			
		16		-			IC10A		N74LS00N		14	7			J
IC5K	SN74LS00N	14	1	7			IC101)	F"	T5709M	-	-		Τ.	.	-
IC5L	SN74LS74AN	14	1 :	7			ICIOH	TI	L084CN	4		1		Į	11
IC5M	SN74LS00N	14		7	Į		CIOK		PC319C	11			1		
IC5N					ì					3.1		8		I	6
	MB8147E	18		9			IC10M		V74LS11N		14	7	İ	Ī	1
IC5P	MB8147E	18	1 :	9		_11	C101,		Λ1 - ·1905		1	9	1		9
IC5Q	SN74LS374N	14	1	7		7	CIOR		J.084CN	4	Ė	Ť	1	+	11
IC5R	SN74LS374N	14		7						-				1	
					1		IC10S		1 - 0201 - 5	13		5	1	1	4
IC5S	SN741.S374N	14		7	Ì		Clof.		LO82CP	8			ĺ	ì	4
IC5T	SN74LS377N	20	10	0		[]	C10X	SN	174LS74AN		1-1	7		i	1
IC5U	SN74LS166AN	16	1 8	8			C10Y		74L574AN		14	7			
					_								1		

D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 3 CLOCK GEN RV1 RV2 RV3 RV4 RV5 TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 C - 2

NOTE \$1 [E-5,6]... These jumper leads are not mounted on CK-11A board's parts number, 1-608-856-14 and up and the machines with serial number, 10401 and higher \$2 [H-7]..... This jumper lead is mounted on the machines with serial number, 10501 to 10900.

24-15

24-16

D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13

E1 E2 E3 E4 E5 E6 E7 E8

LV1 LV2

Q1 Q3 Q4 Q5 Q6 Q7 Q8 Q10 Q11

> RV1 RV2 RV3 RV4 RV5

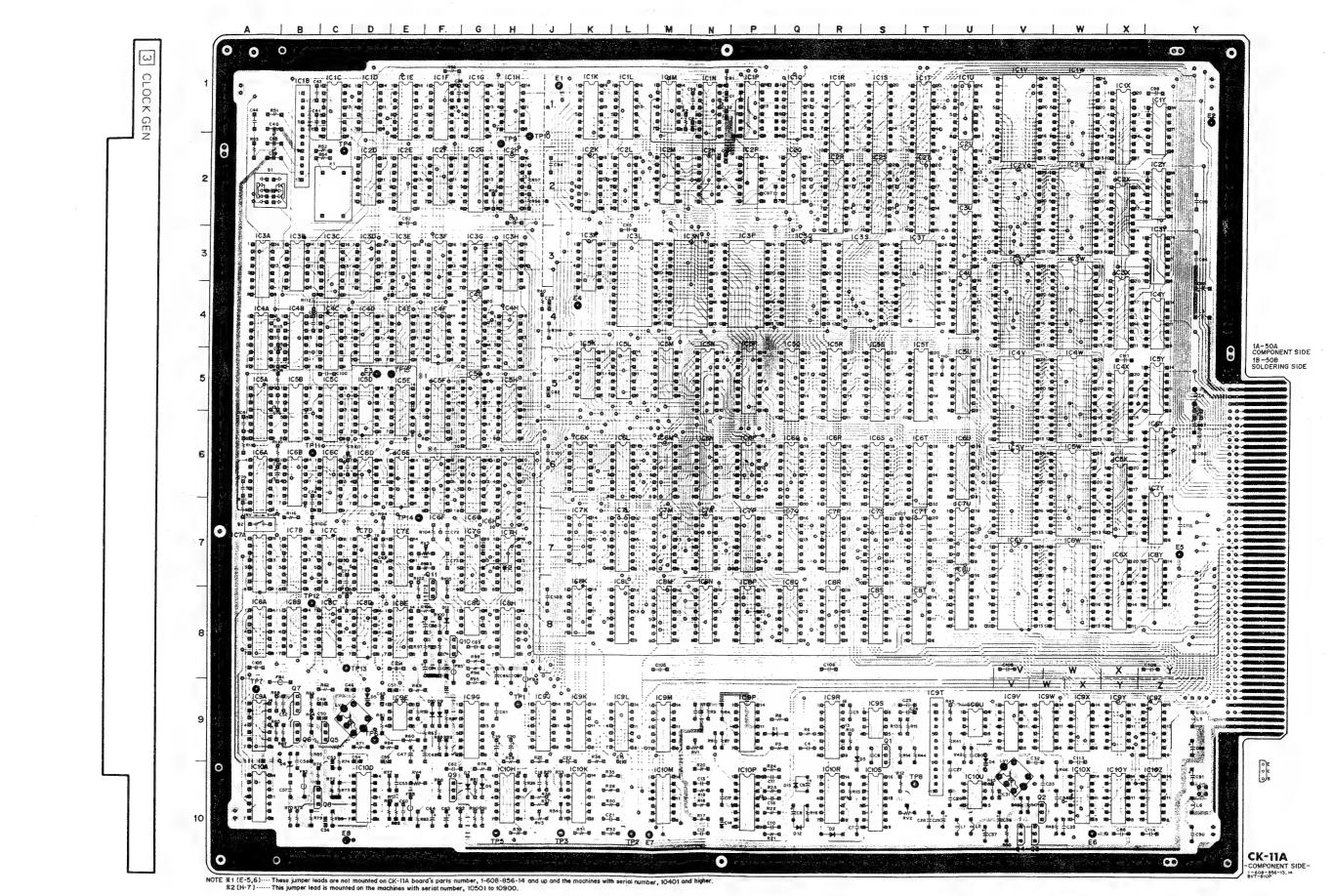
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP112
TP12
TP13
TP14
TP15

X1 C-2

8 10 10

V - 10

N - 9 T - 10 J - 10



24-16

24-17

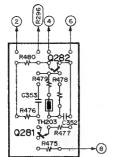
TP201 TP202 TP203 TP204 TP205 TP206 TP207 TP208 TP209 TP210

X201 L - 8

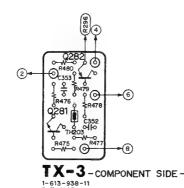
4 NR-11 BOARD TX-3 BOARD

Ref.			Pin No.					
No.	Type	+ 12V	+5V	GND	5V	~12V		
IC1	BX389	10		9				
IC2	TA7060.AP	5		3				
IC3	BX389	10		9				
IC4	TA7060AP	5		3		İ		
IC5	TA7060AP	5		3				
IC6	BX389	10		9				
IC7	BX365 A	3		4.7		9		
IC101	BX389	10		9				
IC102	MC1495L	1				7		
IC103	BX1250	1		5				
IC104	SN74LS12N		14	7				
IC105	TA7060AP	5		3		1		
IC106	BX1256	4		2				
IC107	TA7060AP	5		3				
IC201	SN74LS04N		14	7				
IC202	SN74LS221N		16	8				
IC203	SN74LS221N		16	8				
IC204	SN74LS10N		14	7				
IC205	μ A796HC				10			
IC206	μ A733HC		8		5			
IC207	μ A733HC		8		5			
IC208	TL084CN	4				11		
IC209	HI1 - 0201 - 5	13		5		4		
IC210	BX365A	3		4.7		9		
IC211	.BX389	10	L	9				
IC212	CA3054	T	-	-	-	-		
IC213	BX389	10		9		L		

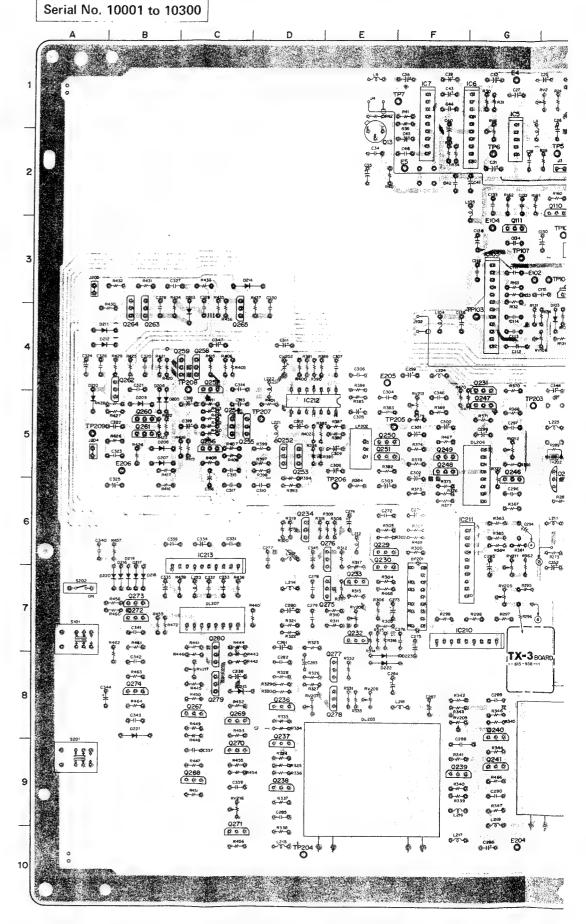
BP201	F - 7	IC1	P - 1	Q209	P - 7	Q270	C - 9
CV201 CV202	M - 6 D - 4	IC2 IC3 IC4 IC5	L - 2 J - 2 J - 1 G - 2	Q210 Q211 Q212 Q213	P - 7 P - 7 N - 7 M - 8	Q271 Q272 Q273 Q274	C - 10 B - 7 B - 7 B - 8
D1 D2 D3	M - 1 L - 1 L - 1	IC6 IC7 IC101	G - 1 F - 1 L - 4	Q214 Q215 Q216	L - 7 L - 7 L - 6	Q275 Q276 Q277	E - 7 E - 6 E - 8
D101 D102 D103	K - 1 K - 1 H - 1	IC102 IC103 IC104	J - 4 G - 3 N - 4	Q217 Q218 Q219	し・7 し・6 K・8	Q278 Q279 Q280	E - 8 C - 8
D104 D201 D202	M - 4 N - 9 N - 9	IC105 IC106 IC107	K - 2 J - 3 H - 3	Q220 Q221 Q222	H - 7 H - 7 J - 7	RV1 RV2	P - 1 H - 1
D203 D204 D205	X - 9 X - 7 B - 5	IC201 IC202 IC203	N - 6 M - 6 M - 5	Q223 Q224 Q225	II - 7 J - 7 II - 5	RV3 RV4 RV101	II - 2 G - 1 L - 3
D206 D207	B - 5 B - 5	IC204 IC205	N - 5	Q226 Q227	H - 5 H - 5	RV 102 RV 103 RV 104	L - 3 J - 4 J - 3
D208 D209 D210	B - 5 B - 5 A - 5	IC206 IC207 IC208	J - 7 J - 5 K - 5	Q228 Q229 Q230	H - 5 E - 6 E - 7	RV105 RV106	H - 4 H - 4
D211 D212 D213	A - 4 C - 4 C - 3	IC209 IC210 IC211	L - 6 G - 7 G - 6	Q231 Q232 Q233	G - 1 E - 7 E - 7	RV107 RV108 RV201	J - 2 K - 2 L - 10
D214 D215 D216	C - 8 B - 7	IC212 IC213	D - 5 C - 7	Q234 Q235 Q236	D - 6 J - 5 D - 8	RV202 RV203 RV204	L - 10 L - 10 N - 10
D217 D218 D219	B - 7 B - 7 B - 7	LV 101 Q1	P - 4 N - 1	Q237 Q238 Q239	D - 9 D - 9 F - 9	RV205 RV206 RV207	G - 7 E - 7 D - 8
D220 D221 D222	B - 7 B - 8 E - 8	Q2 Q3 Q4	M - 2 N - 1 M - 1	Q240 Q241 Q242	G - 8 G - 9 J - 9	R\'208 R\'209 R\'210	E - 8 F - 8 K - 9
D223 D224	E - 8 E - 8 L - 5	Q5 Q6 Q7	M - 2 M - 2	Q243 Q244 Q215	K - 10 K - 9	R\'211 R\'212 R\'213	G - 7 G - 5 F - 5
DL101 DL102 DL201	N - 4 N - 2 M - 8	Q8 Q9 Q13	L - 2 H - 1 H - 1 E - 2	Q246 Q247 Q248	G - 5 G - 5 F - 5 E - 5 E - 5	RV214 RV215 RV216	K - 5 J - 5 C - 9
DL202 DL203 DL204	J - 6 E - 8 H - 8	Q101 Q102 Q103	N - 3 M - 3 J - 1	Q249 Q250 Q251	F - 5 E - 5 E - 5	RV217 S101	C - 8 A - 7
DL205 DL206 DL207	K - 8 G - 5 C - 7	Q104 Q105 Q106	H - 3 M - 4 P - 3	Q252 Q253 Q254	D - 5 D - 5 C - 5	S201 S202	A - 9 A - 7
E1 E3	N - 1 K - 1	Q107 Q108 Q109	M - 3 M - 3 L - 3	Q255 Q256 Q257	D - 5 C - 5 C - 5 C - 5 C - 1 C - 4 C - 1 B - 5	TP1 TP2 TP4	N - 1 L - 1 J - 1
E4 E5 E102	G - 1 F - 2 G - 3	Q110 Q111 Q112	H - 2 G - 3 N - 4	Q258 Q259 Q260	C - 4 C - 1 B - 5	TP5 TP6 TP7	H - 2 G - 2 F - 1
E103 E104 E201	J - 2 -G - 3 - X - 10	Q201 Q202 Q203	N - 8 N - 8 L - 9	Q261 Q262 Q263	B - 5 B - 4 B - 1	TP101 TP102 TP103	K - 4 H - 3 G - 4
E202 E203 E204	P - 7 J - 1 G - 10	Q201 Q205 Q206	M - 9 M - 10 N - 10	Q264 Q265 Q267	B - 4 C - 4 C - 8 C - 9	TP104 TP105 TP106	H - 3 J - 3 H - 3
E205 E206	E - 4 B - 5	Q207 Q208	N - 9 P - 10	Q268 Q269	C - 9 C - 8	TP107 TP108	G - 3 P - 2



TX-3-COMPONENT SIDE-



4 NOISE REDUCER ON C-ENH. 0 N F CNR



24-22 (a)

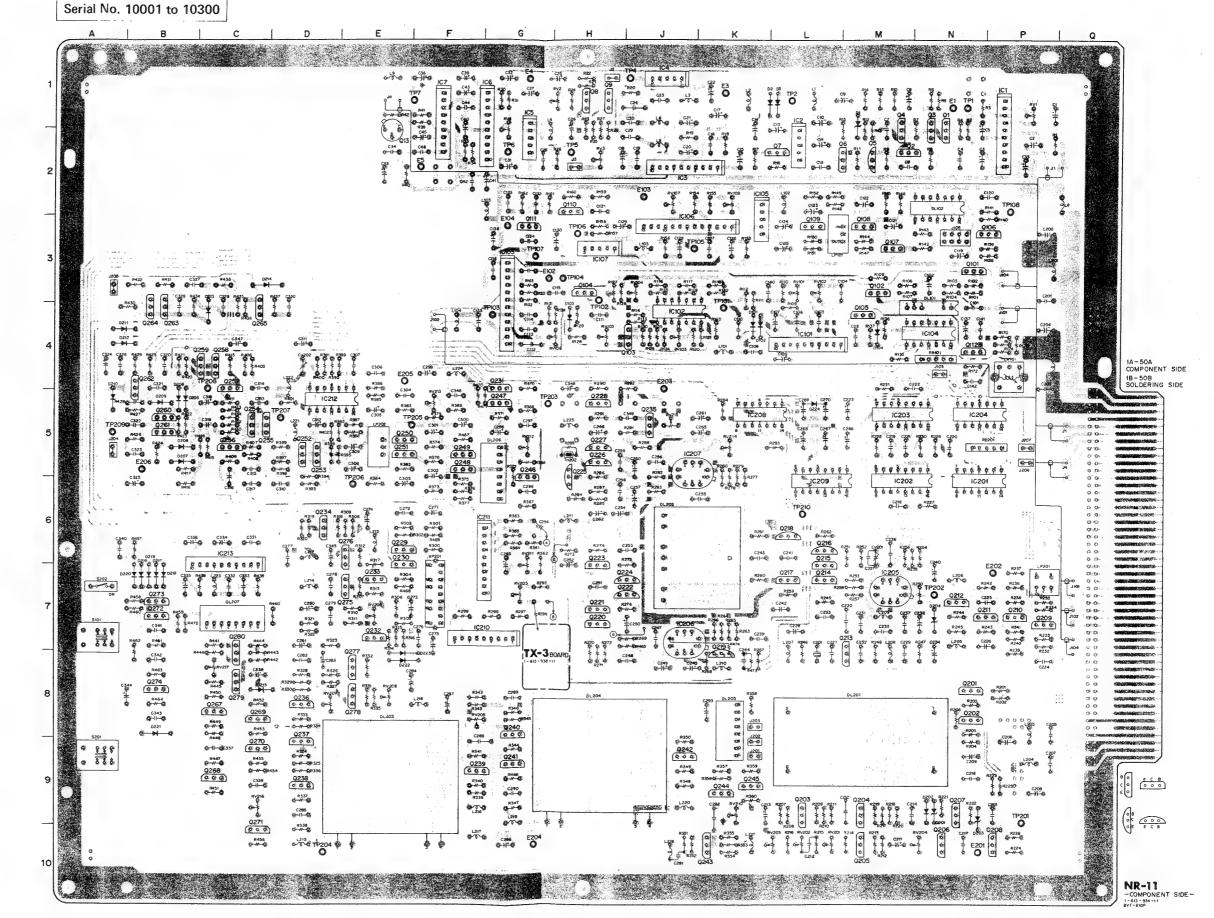
NOISE REDUCER

ON C-ENH

CN C

TP201 TP202 TP203 TP204 TP205 TP206 TP207 TP208 TP209

X201 L - 8



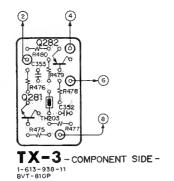
24-22 (a)

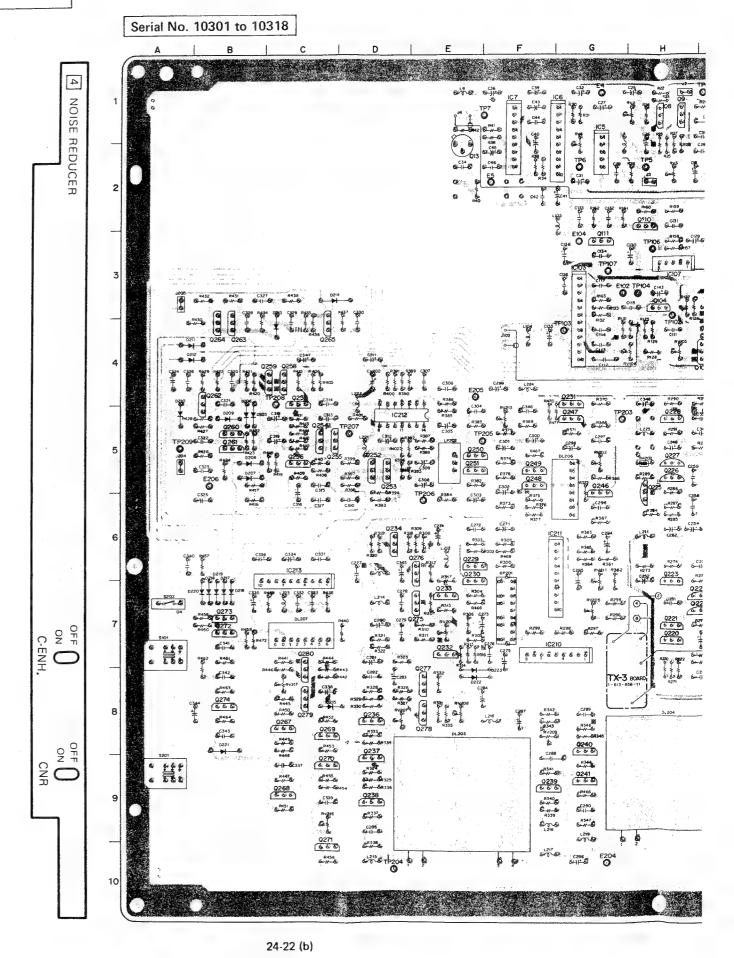
24-23 (a)

4 NR-11 BOARD TX-3 BOARD

Ref.	T			in No.		
No.	Type	+12V	+5V	GNI)	-5V	- 12V
IC1	BX389	10		9		
IC2	TA7060AP	5	ì	3		
IC3	BX389	10		9		
IC4	TA7060AP	5		3		
IC5	TA7060AP	5		3		
IC6	BX389	10		9		
IC7	BX365A	3		4,7		9
IC101	BX389	10		9		
IC102	MC1495L	1				7
IC103	BX1250	1 1		5		L
IC104	SN74LS12N		14	7	ĺ	
"IC105	TA7060AP	5	ļ	3		
IC106	BX1256	4	ĺ	2	Ι.	
IC107	TA7060AP	5		3		
IC201	SN74LS04N		14	7		
IC202	SN74LS221N		16	8	l	
IC203	SN74LS221N		16	8		
IC204	SN74LS10N		14	7		
IC205	μ A796HC		ĺ		10	ĺ
IC206	μ A733HC		8		5	
IC207	μ A733HC		8	1	5	
IC208	TL084CN	4				11
IC209	HII1 - 0201 - 5	13	ł	5		4
IC210	BX365A	3		4.7		9
IC211	BX389	10		9	_	
IC212	CA3054	-	-	-	-	-
IC213	BX389	10		9		

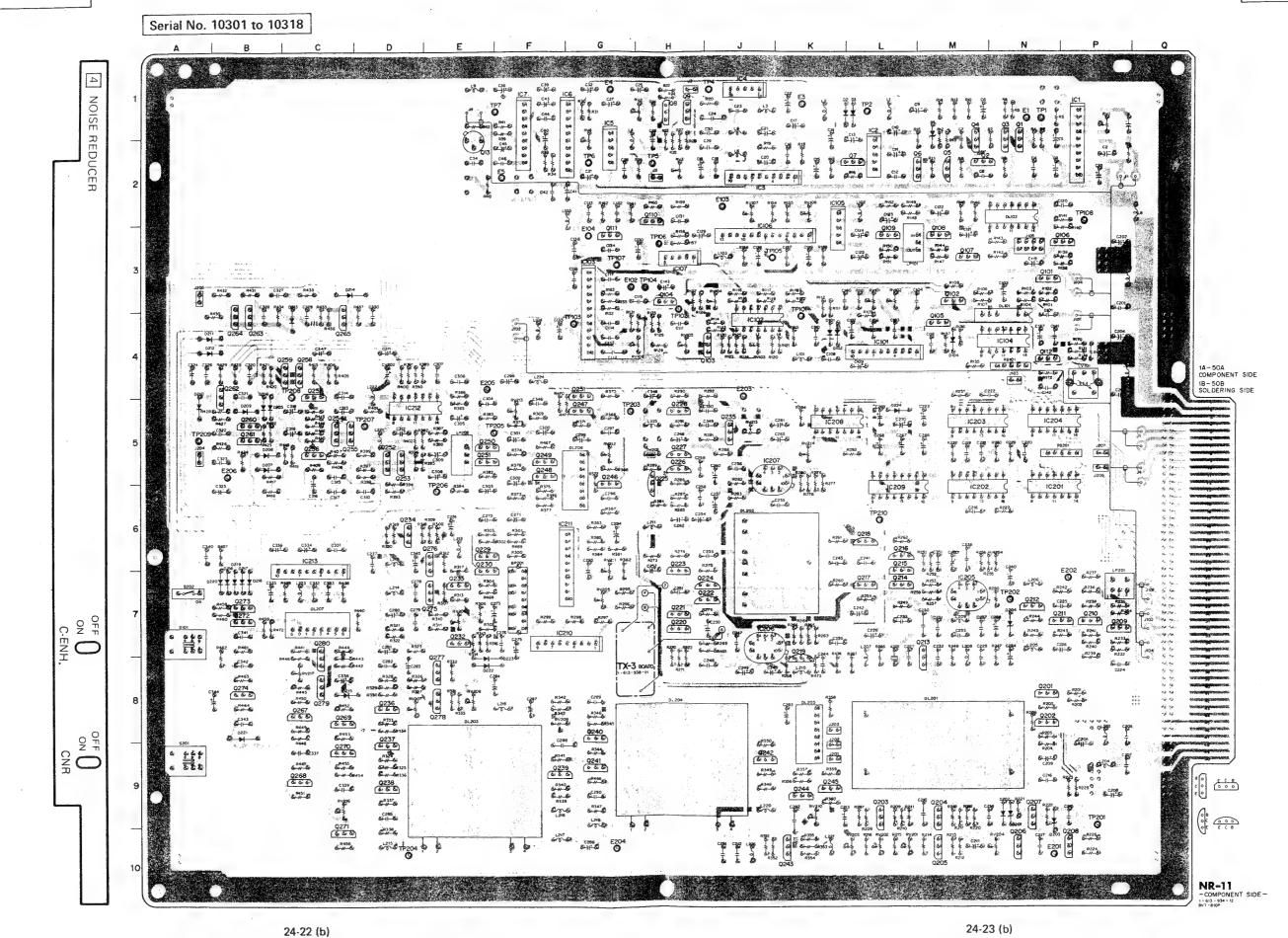
BP201 CV201 CV202 D1 D2 D3 D101 D102 D104 D201 D202 D203 D204 D205 D206 D207 D208 D209 D211 D212 D213 D214 D215 D216 D217 D218 D217 D218 D219 D217 D218 D219 D219 D219 D217 D218 D219 D210 D210 D210 D211 D212 D213 D214 D215 D216 D217 D218 D219 D220 D220 D220 D220 D220 D220 D220 D220 D220 D220 D220 D220 D220	F - 7 M - 6 D - 4 L - 1 L - 1 K - 4 M - 9 N - 9 N - 9 N - 9 S - 5 S - 5 S - 5 B - 5 B - 7 B - 7 B - 7 B - 7	IC1 IC2 IC3 IC4 IC5 IC6 IC7 IC7 IC101 IC102 IC103 IC104 IC105 IC106 IC107 IC201 IC202 IC203 IC206 IC207 IC201 IC20	P-12J-12J-12GG-14J-3GG-14J-3GG-14J-3GG-14J-3GG-15T-14J-3GG-15T-14J-5GG-16T-7GG-17GG-17GGG-17GGGGGGGGGGGGGGGGGGGGG	Q209 Q210 Q211 Q212 Q213 Q214 Q215 Q216 Q217 Q218 Q220 Q221 Q223 Q224 Q223 Q224 Q225 Q226 Q227 Q229 Q330 Q231 Q2424 Q25 Q233 Q243 Q243 Q243 Q234 Q235 Q233 Q234 Q335 Q336 Q337 Q338 Q337 Q338 Q337 Q338 Q239 Q330 Q231	P-77 PP-77 NM-7-68 1-7-68 1-7-7-7-7-5-5-5-6-7-4-7-7-6-8-8-9-9-9-8	Q270 Q271 Q272 Q273 Q274 Q275 Q276 Q277 Q278 Q279 Q280 RV1 RV23 RV4 RV101 RV102 RV103 RV104 RV105 RV106 RV107 RV108 RV201 RV201 RV201 RV204 RV204 RV204 RV204 RV207 RV207 RV207 RV207 RV207 RV207 RV207 RV207 RV207 RV207 RV207	C-90 C-107 B-77 B-77 B-77 B-77 B-77 B-77 B-77 B-	TP201 TP202 TP203 TP204 TP205 TP206 TP207 TP208 TP209 TP210	P N G T F E T C A L L L
D224 DL101 DL102 DL201 DL202 DL203 DL204	L - 5 N - 4 N - 2 M - 8 J - 6 E - 8 H - 8	Q5 Q6 Q7 Q8 Q9 Q13 Q101 Q102	M - 2 M - 2 L - 2 H - 1 H - 1 E - 2 N - 3 M - 3	Q243 Q244 Q245 Q246 Q247 Q248 Q249 Q250 Q251	K - 10 K - 9 K - 9 G - 5 F - 5 F - 5 E - 5 E - 5	RV211 RV212 RV213 RV214 RV215 RV216 RV217	G - 7 G - 5 F - 5 K - 5 J - 5 C - 9 C - 8		
DL205 DL206 DL207 E1 E3	K - 8 G - 5 C - 7 N - 1 K - 1	Q103 Q104 Q105 Q106 Q107 Q108	J - 4 H - 3 M - 4 P - 3 M - 3 M - 3 L - 3	Q252 Q253 Q254 Q255 Q256 Q256 Q257	D - 5 D - 5 C - 5 C - 5 C - 5	S201 S202 TP1 TP2 TP4	A - 9 A - 7 N - 1 L - 1 J - 1		
E4 E5 E102 E103 E104 E201 E202 E203 E204 E205 E206	G - 1 F - 2 G - 3 J - 2 G - 3 N - 10 P - 7 J - 4 G - 10 E - 4 B - 5	Q109 Q110 Q111 Q112 Q201 Q202 Q203 Q204 Q205 Q206 Q207 Q208	H - 3 H - 2 G - 3 N - 4 N - 8 N - 8 L - 9 M - 10 N - 10 N - 10 P - 10	Q257 Q258 Q259 Q260 Q261 Q262 Q263 Q264 Q265 Q267 Q268 Q269	C - 4 C - 4 B - 5 B - 4 B - 4 C - 8 C - 8	TP5 TP6 TP7 TP101 TP102 TP103 TP104 TP105 TP106 TP107 TP108	H - 2 G - 2 F - 1 K - 4 H - 3 H - 3 H - 3 H - 3		





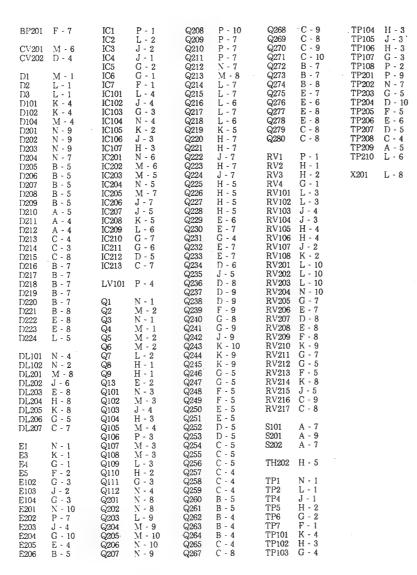
P - 9 N - 7 G - 5 D - 10 F - 5 E - 6 D - 5 C - 4 A - 5 L - 6

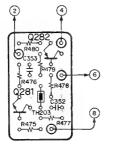
L - 8



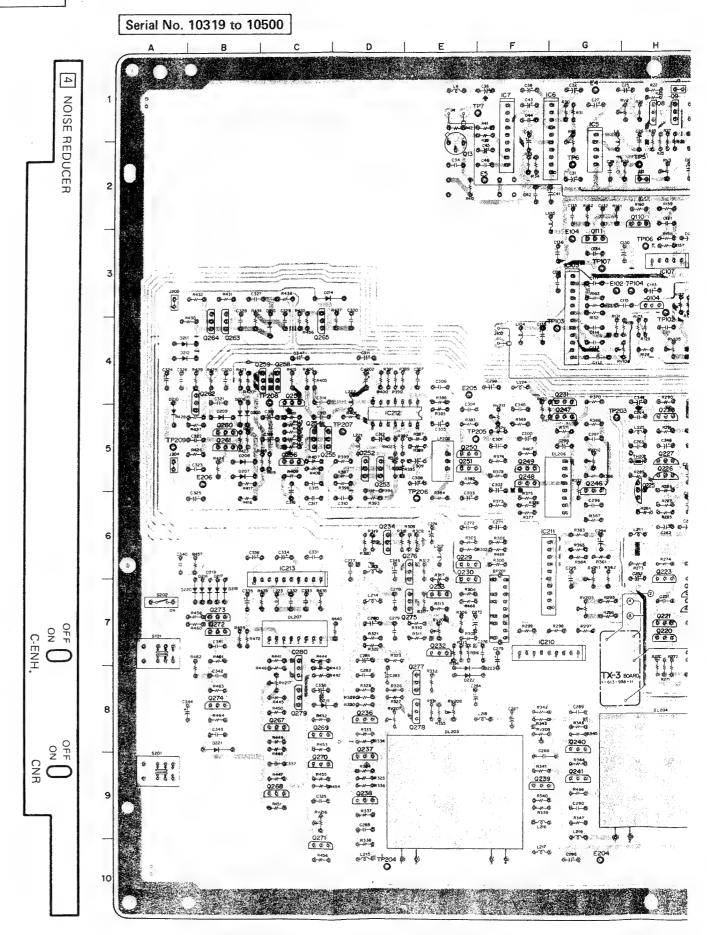
4 NR-11 BOARD TX-3 BOARD

Ref.	Type		Pin No.						
No.	Type	+ 12V	+51	GND	5V	12V			
IC1	BX389	10		9					
IC2	TA7060AP	5		3	Ì	ĺ			
IC3	BX389	10		9		1			
IC4	TA7060AP	5		3					
IC5	TA7060AP	5		3					
IC6	BX389	10		9					
IC7	BX365A	3		4.7	1	9			
IC101	BX389	10		9		1			
IC102	MC1495L	1				7			
IC103	BX1250	1		5		l			
IC104	SN74LS12N		11	7					
IC105	TA7060AP	5		3		ļ			
IC106	BX1256	-4		2		}			
IC107	TA7060AP	5		3					
IC201	SN74LS04N	١	1-1	7		L			
IC202	SN74LS221N	T	16	8					
IC203	SN74LS221N		16	8					
JC204	SN74LS10N		14	7					
IC205	µ А796НС				10				
IC206	µ А733НС		8		5				
IC207	и A733HC		8		5				
IC208	TL084CN	4				11			
IC209	HII - 0201 - 5	13		5		-4			
JC210	BX365A	3		4.7		9			
IC211	BX389	10		9					
IC212	CA3054								
IC213	BX389	10		9					



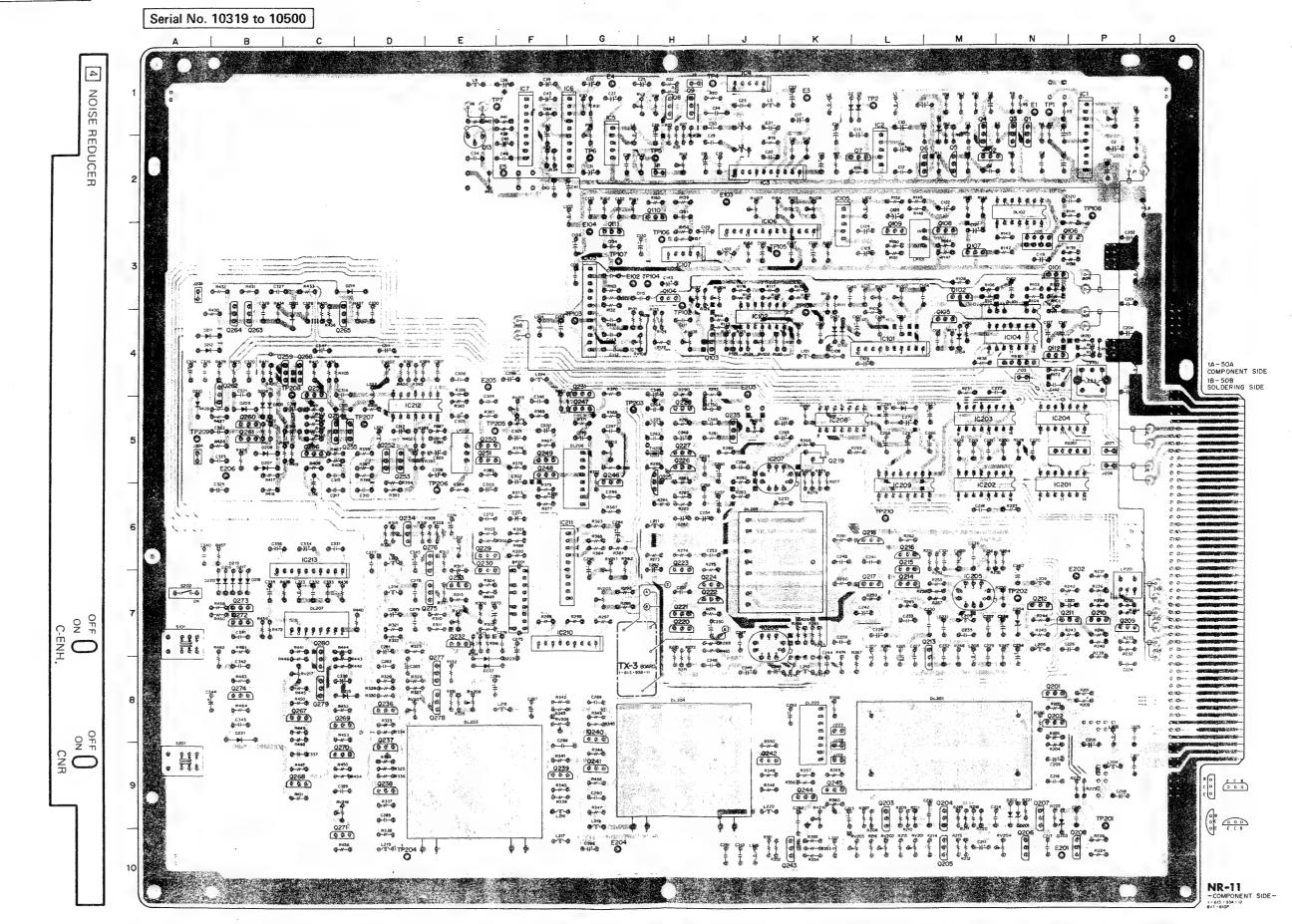


TX-3-COMPONENT SIDE-



24-22 (c)

TP104 II TP105 J TP106 H TP107 G TP108 P TP201 N TP201 D TP203 G TP204 D TP204 D TP205 F TP206 E - 6
TP207 D TP207 D TP208 C - 4
TP209 A - 5
TP210 L - 6



24-22 (c)

24-23 (c)

NR-11 NR-11

4 NR-11 BOARD

Ref.				in No			
No.	No. Type		+5V	GND	-5V	12V	
IC1	BX389	10		9			
IC2	TA7060AP	5		3			
IC3	BX389	10		9	l		
IC4	TA7060AP	5		3			
IC5	TA7060AP	5		3		L	
IC6	BX389	10		9			
IC7	BX365A	3		4, 7		9	
IC101	BX389	10		9			
IC102	MC1495L	1				7	
IC103	BX1250	1		5			
IC104	SN74LS12N		14	7			
IC105	TA7060AP	5		3			
IC106	BX1256	4		2			
IC107	TA7060AP	5		3			
IC201	SN74LS04N		14	7			
IC202	SN74LS221N		16	8			
IC203	SN74LS221N		16	8			
IC204	SN74LS10N		14	7			
IC205	MC1496G			,	10		
IC206	μ A733HC		8		5		
IC207	μ A733HC		8		5		
IC208	TL084CN	4				11	
IC209	HI1 - 0201 - 5	13		5		4	
IC210	BX365A	3		4.7	1	9	
IC211	BX389	10		9			
IC212	CA3054	-	-	-	-	-	
JC213	BX389	10		9	[

	BP201	F - 7	IC1	P - 1	Q206	N - 10	Q267	C - 8	TP4	J - 1		
	CV201 CV202 CV203	M - 6 D - 4 C - 7	IC2 IC3 IC4 IC5	L - 2 J - 2 J - 1 G - 2	Q207 Q208 Q209 Q210	P - 7	Q268 Q269 Q270 Q271 Q272	C - 9 C - 8 C - 9 C - 10 B - 7	TP5 TP6 TP7 TP101	H - 2 G - 2 F - 1 K - 4		
	D1 D2 D3 D101 D102 D104 D201 D202 D203 D204 D205 D206 D207 D208 D209 D211	M - 1 L - 1 L - 1 K - 4 M - 4 N - 9 N - 9 N - 7 B - 5 B - 5 B - 5	IC6 IC7 IC101 IC102 IC103 IC104 IC105 IC106 IC107 IC201 IC202 IC203 IC204 IC205 IC206 IC207 IC208	G-1 F-14-1-4 J-4-8 K-2 H-3 M-6 M-5 M-5 M-7 J-5 K-5	Q211 Q212 Q213 Q214 Q215 Q216 Q217 Q218 Q219 Q220 Q221 Q222 Q223 Q224 Q225 Q225 Q226 Q227 Q227 Q228	P-7 NM-7 LL-7 LL-6 LL-7 H-7 H-7 H-5 H-5 H-5	Q273 Q274 Q275 Q275 Q276 Q277 Q278 Q279 Q280 Q281 Q282 Q283 RV1 RV2 RV3 RV4 RV101	B-77 B-78 B-76 BE-68 E-88 E-88 E-88 HH-7 HH-11 HH-11 HH-13	TP102 TP103 TP104 TP105 TP106 TP107 TP108 TP201 TP202 TP203 TP204 TP206 TP207 TP208 TP209 TP2101 TP211	H - 3 G - 4 H - 3 J - 3 G - 3 P - 2 P - 9 N - 7 G - 5 E - 6 D - 5 C - 4 A - 5 C - 16		
D211 D212 D213 D214 D215 D216 D217 D218 D219 D220 D221 D222	D212 D213 D214 D215 D216 D217 D218 D219 D220 D221	A - 4 A - 4 C - 3 C - 8 B - 7 B - 7 B - 7 B - 7 B - 8 E - 8	IC209 IC210 IC211 IC212 IC213 LP101 LP202 LV101 Q1 Q2	L - 6 G - 7 G - 6 D - 5 C - 7 L - 3 E - 5 P - 4 N - 1 M - 2	Q229 Q230 Q231 Q232 Q233 Q234 Q235 Q236 Q237 Q238 Q239 Q240	E - 6 E - 7 G - 4 E - 7 E - 7 D - 6 J - 8 D - 9 D - 9 F - 9 G - 8	RV102 RV103 RV104 RV105 RV106 RV107 RV108 RV201 RV202 RV203 RV204 RV205	L - 3 J - 4 J - 3 H - 4 J - 2 K - 2 L - 10 L - 10 L - 10 G - 7	X201	L - 8		
	D224 DL101 DL102 DL201 DL202 DL203 DL204 DL205 DL206 DL207	L - 5 N - 4 N - 2 M - 8 J - 6 E - 8 K - 8 G - 5 C - 7	Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q13 Q101 Q102 Q103	Q4 Q5 Q6 Q7 Q8 Q9 Q13 Q101 Q102 Q103	Q4 Q5 Q6 Q7 Q8 Q9 Q13 Q101 Q102 Q103 Q104	N - 1 M - 1 M - 2 M - 2 L - 2 H - 1 H - 1 E - 2 N - 3 M - 3 J - 4 H - 3	Q241 Q242 Q243 Q244 Q245 Q246 Q247 Q248 Q249 Q250 Q251 Q252	G - 9 J - 9 K - 10 K - 9 G - 5 G - 5 F - 5 E - 5 E - 5	RV206 RV207 RV208 RV209 RV210 RV211 RV212 RV213 RV214 RV215 RV216 RV217	E-7 -8 -8 F-8 -7 -8 -7 -8 -7 -5 -5 -5 -5 -5 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7		
	E1 E3 E4	N - 1 K - 1 G - 1 F - 2	Q105 Q106 Q107	M - 4 P - 3 M - 3	Q253 Q254 Q255	D - 5 C - 5 C - 5	RB101 RB201	N - 4 P - 5				
	E5 E102 E103 E104	F - 2 G - 3 J - 2 G - 3	Q108 Q109 Q110 Q111	M - 3 L - 3 H - 2 G - 3	Q256 Q257 Q258 Q259	C - 5 C - 4 C - 4 C - 4 B - 5	S101 S201 S202	A - 7 A - 9 A - 7				
	E201 E202 E203	N - 10 P - 7 J - 4	Q112 Q201 Q202	N - 4 N - 8 N - 8	Q260 Q261 Q262	B - 5 B - 4	TH202 TH203	H - 5 G - 8				
	E204 E205 E206	G - 10 E - 4 B - 5	Q203 Q204 Q205	L - 9 M - 9 M - 10	Q263 Q264 Q265	B - 4 B - 4 C - 4	TP1 TP2	N - 1 L - 1				

24-22 (d)

Serial No. 10501 and higher

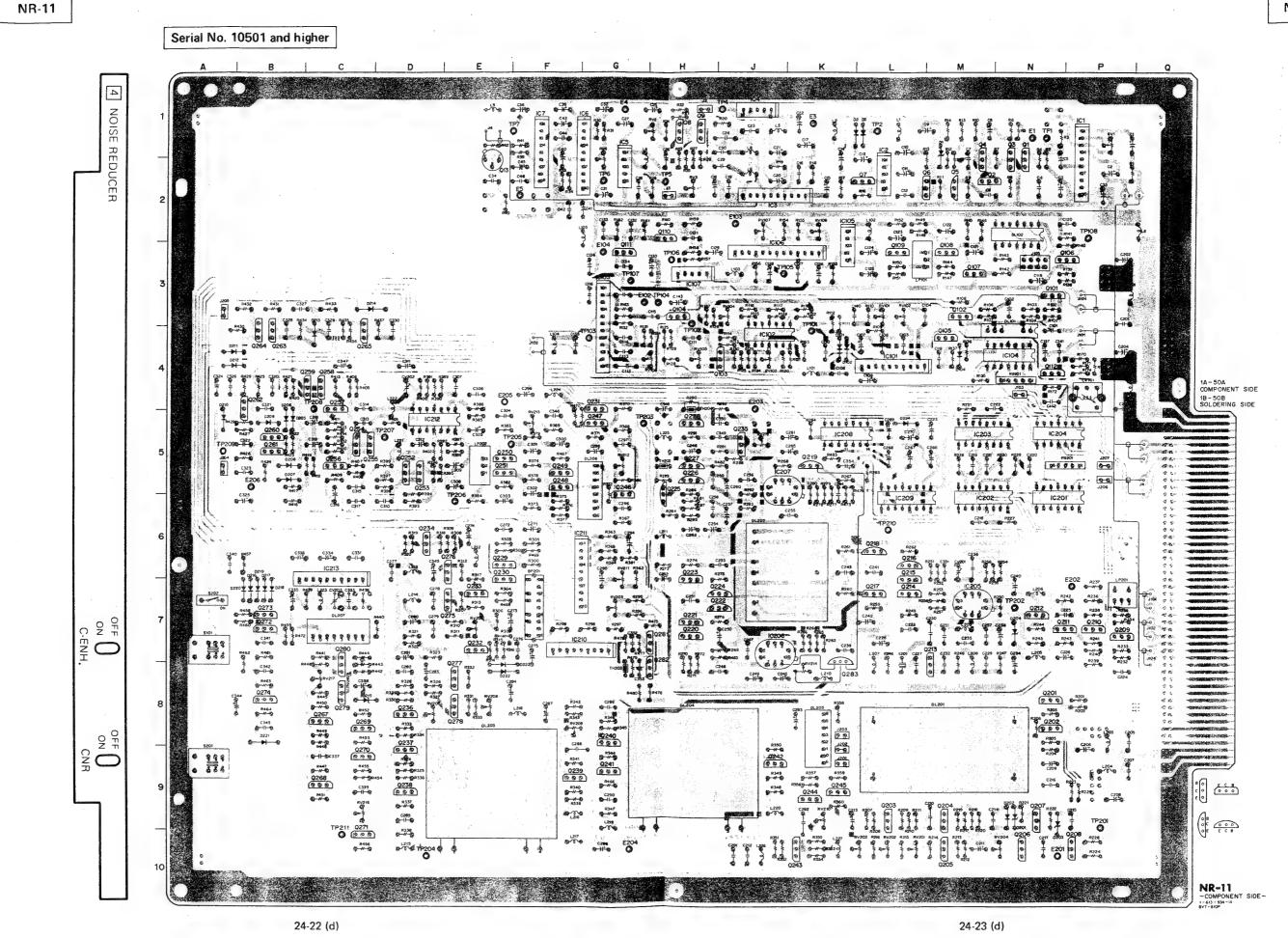
24-21 (d)

TP4
TP5
TP6
TP7
TP101
TP102
TP103
TP104
TP106
TP107
TP108
TP201
TP202
TP203
TP204
TP205
TP206
TP207
TP208
TP209
TP211

X201

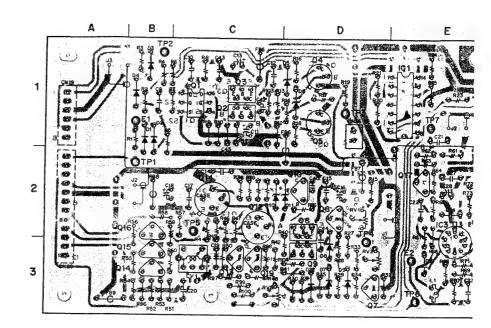
[- 5 | - 8 D - 5 C - 4 A - 5 L - 6 C - 10

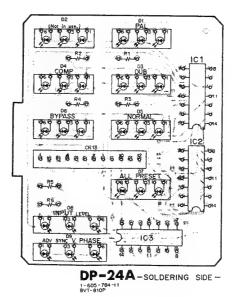
L - 8



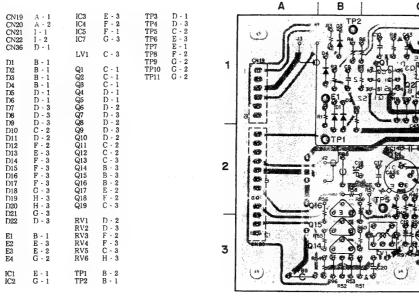
IV-4A BOARD DP-24A BOARD

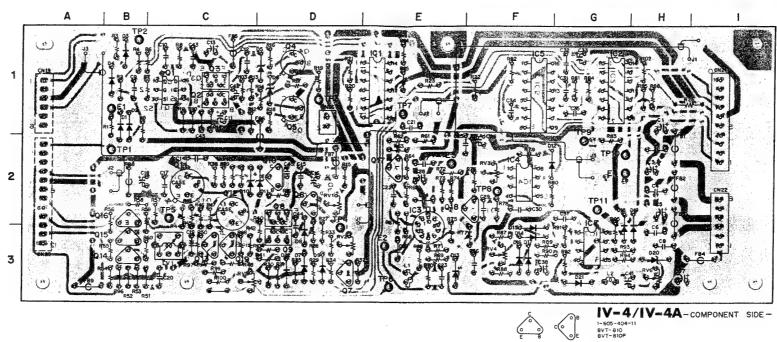
CN19 CN20 CN21 CN22 CN36	A - 1 A - 2 I - 1 I - 2 D - 1	IC3 IC4 IC5 IC7	E · 3 F · 2 F · 1 G · 3	TP3 TP4 TP5 TP6 TP7	D - 1 D - 3 C - 2 E - 3 E - 1
D1	B - 1	LV1	C - 3	TP8 TP9	F - 2 G - 2
D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D19	B-1 B-1 D-1 D-3 D-3 D-3 C-2 F-2 E-3 F-3 F-3 F-3 F-3 H-3	Q1 Q2 Q4 Q5 Q6 Q7 Q6 Q1 Q1 Q1 Q1 Q1 Q1 Q1 Q1 Q1 Q1 Q1 Q1 Q1	C - 1 C - 1 D - 1 D - 2 D - 3 D - 3 D - 3 D - 2 D - 3 D - 2 D - 3 B - 3 B - 3 B - 3 E - 2 C - 2 C - 3	TPIO TPII	G - 2 G - 2
D22	D - 3	RV1 RV2	D - 2		
E1 E2 E3 E4	B - 1 E - 3 E - 2 G - 2	RV2 RV3 RV4 RV5 RV6	D - 3 F - 2 F - 3 C - 3 H - 3		
IC1	E - 1	TP1	B - 2		

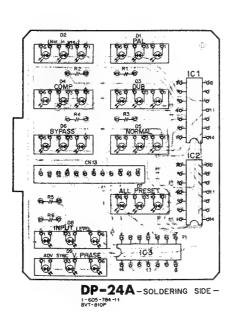




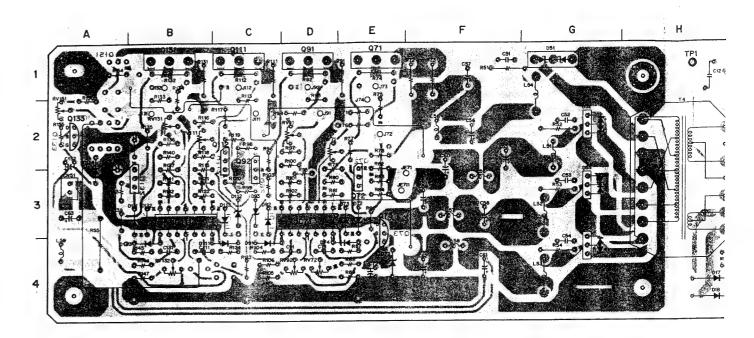
IV-4A BOARD DP-24A BOARD





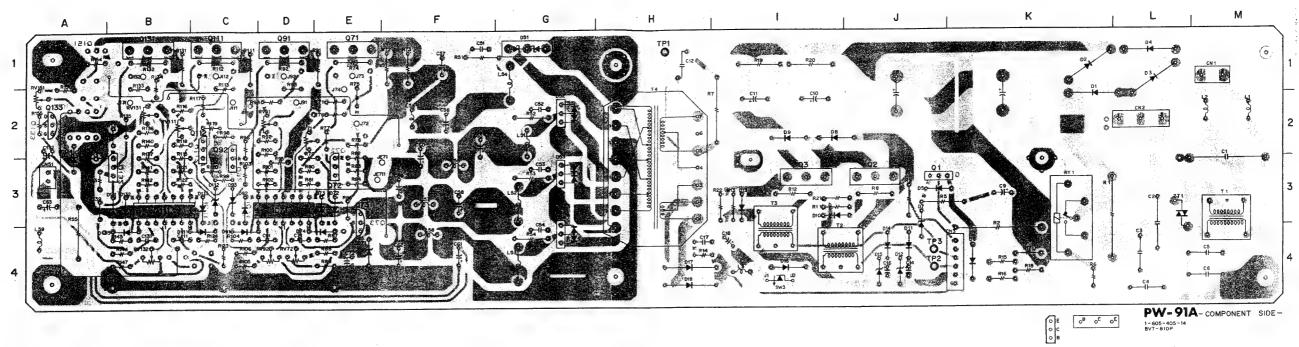


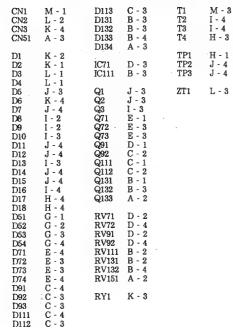
PW-91A BOARD CT-29 BOARD

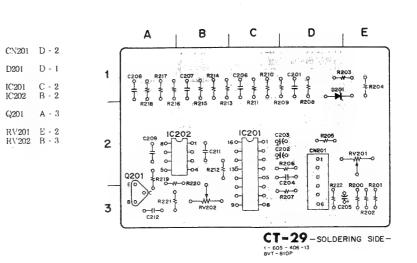


CN1 M - 1 D113 C - 3 T1 M - 3
CN2 L - 2 D131 B - 3 T2 I - 4
CN3 K - 4 D132 B - 3 T3 I - 4
CN51 A - 3 D133 B - 4 T4 H - 3
D134 A - 3
D1 K - 2 TP1 H - 1
D2 K - 1 IC71 D - 3 TP2 J - 4
D3 L - 1 IC111 B - 3 TP3 J - 4
D4 L - 1 D5 J - 3 Q1 J - 3 ZT1 L - 3
D6 K - 4 Q2 J - 3
D7 J - 4 Q3 I - 3
D8 I - 2 Q71 E - 1
D9 I - 2 Q72 E - 3
D10 I - 3 Q73 E - 3
D11 J - 4 Q91 D - 1
D12 J - 4 Q91 C - 2
D13 I - 3 Q11 C - 1
D14 J - 4 Q13 B - 1
D14 J - 4 Q13 B - 1
D15 J - 4 Q131 B - 1
D16 I - 4 Q132 B - 3
D17 H - 4 Q13 B - 3
D17 H - 4 Q133 A - 2
D18 H - 4
D51 G - 1 RV71 D - 2
D52 G - 2 RV72 D - 4
D53 G - 3 RV91 D - 2
D54 G - 4 RV92 D - 4
D71 E - 4 RV111 B - 2
D72 E - 3 RV131 B - 2
D73 E - 3 RV131 B - 2
D74 E - 4 RV151 A - 2
D91 C - 4
D92 C - 3
D93 C - 3
D91 C - 4
D92 C - 3
D91 C - 4
D92 C - 3
D111 C - 4
D111 C - 4
D111 C - 4
D111 C - 4
D111 C - 4
D111 C - 4
D111 C - 3

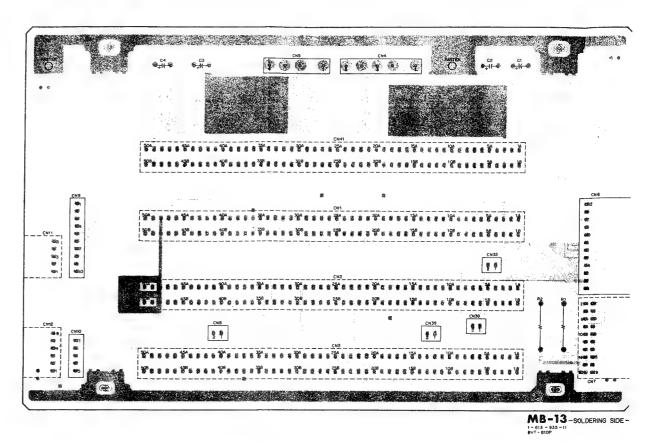
PW-91A BOARD CT-29 BOARD



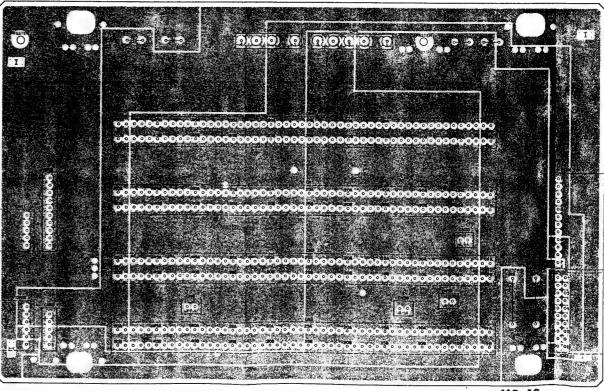




MB-13 BOARD CN-46A BOARD

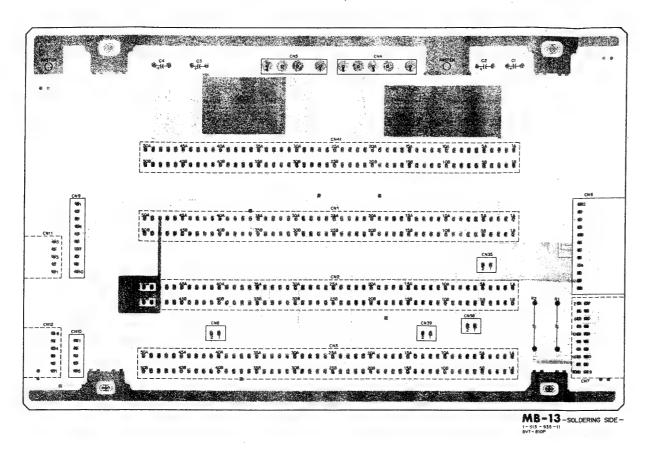


±12V, ±5V and GND PATTERN

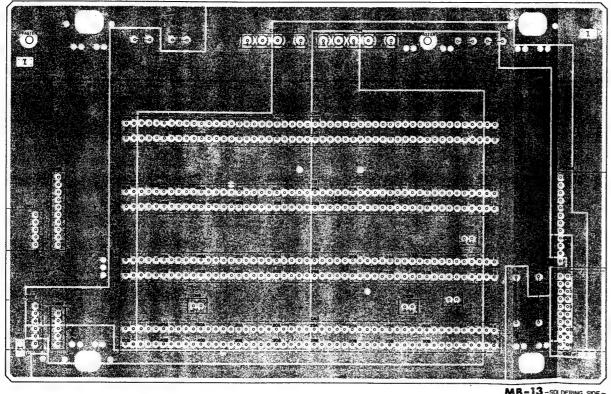


MB-13-SOLDERING SIDE-

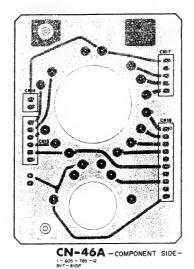
MB-13 BOARD CN-46A BOARD



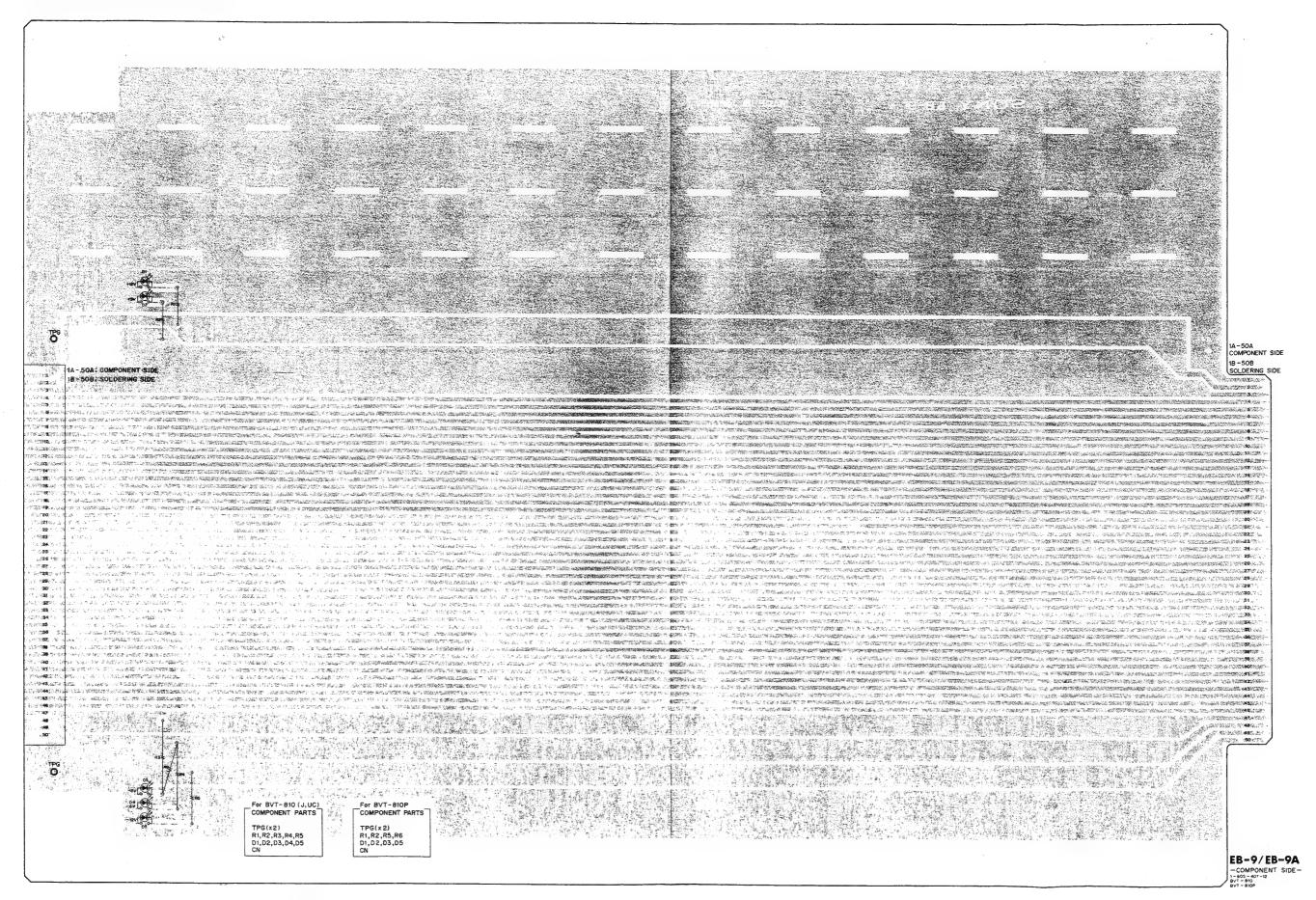
±12V, ±5V and GND PATTERN



MB-13-SOLDERING SIDE-



24-40



24-45

• 1

SECTION 25 SPARE PARTS AND FIXTURE

25-1. PARTS INFORMATION

- (1) Safety Related Components Warning.

 Components identified by shading and marked with A on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation.

 Replace these components with the Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.
- (2) Replacement Parts supplied from the Sony have sometimes will Center different shape from the original parts. This is due to "accommodating the improved changes" engineering and/or "standardization of genuine parts". This manual's exploded views and electrical spare parts list indicate the part numbers of "the standardized genuine parts at the Regarding engineering present". in out engineering department, refer to Sony service bulletins and service manual supplements.
- (3) The parts marked with "s" in the SP column of the exploded views and electrical spare stocked normally list are replacement purposes. The parts marked with "o" in the SP column are not normally required for routine service work. Orders 11011 will be marked with parts additional processed, allow for delivery time.

25-2. EXPLODED VIEW

- . Exploded views are composed of the following blocks.
- (1) Chassis Assy
 ornamental panel
 printed circuit board
- (2) Power Supply Assy
 power supply chassis
 connector panel for power supply
 power switch
 ventilation fan
- (3) Connector Panel connector panel



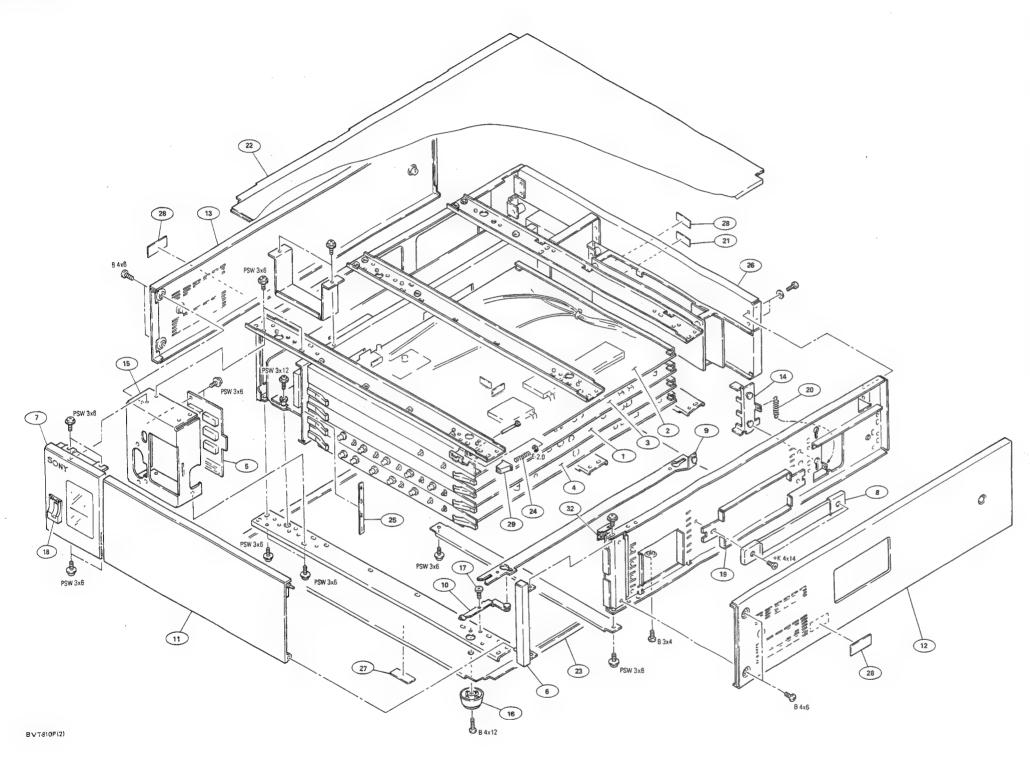
	HEXAGON SOCKET SCREW	HEXAGON SET SCREW	(-) SET SCREW FLAT POINT	(-) SET SCREW
	⊕ □ □	•	⊕-=	
2.6 x 3		7-621-734-09		
2.6 x 4	7-621-996-24	7-621-735-09		
2.6 × 5		7-621-736-09		
2.6 × 6	7-683-412-05			7-621-712-55
2.6 x 8	7-683-413-05			7-621-712-65
2.6 × 10				7-621-712-75
3 × 4		7-683-238-01		
3 x 5			7-683-175-01	
3 x 6	7-683-403-04		7-683-176-01	7-683-176-21
3 x 8	7-683-404-04			7-683-177-21
3 x 10	7-683-405-04			7-683-178-21
3 x 12				7-683-179-21

	PS	PSW	B (BZn-N)	B (Cr-N)	PTT	PTTWH
	₩		(1
2.6 × 4	7-621-972-05		7-621-912-10	7-621-912-18		7-687-508-31
2.6 × 6	7-621-972-25	7-621-981-15	7-621-912-30	7-621-912-38		7-687-501-31
2.6 × 8	7-621-972-35	7-621-981-25	7-621-912-40	7-621-912-48		7-687-502-31
2.6 x 10	7-621-972-45	7-621-981-35	7-621-912-50	7-621-912-58		7-687-503-31
2.6 x 12	7-621-972-55	7-621-981-45	7-621-912-60	7-621-912-68		7-687-504-31
2.6 x 14	7-621-972-65	7-621-981-55	7-621-912-70	7-621-912-78		7-687-505-31
2.6 × 16	7-621-972-75	7-621-981-65	7-621-912-80	7-621-912-88		7-687-506-31
2.6 × 20	7-621-972-85	7-621-981-75	7-621-912-90	7-621-912-98		7-687-507-31
3 x 5	7-686-446-01					
3 x 6	7-686-447-01	7-686-527-01	7-686-624-09	7-686-624-04	7-687-411-31	7-687-510-31
3 x 8	7-686-448-01	7-686-528-01	7-686-625-09	7-686-625-04	7-687-412-31	7-687-511-31
3 x 10	7-686-449-01	7-686-529-01	7-686-626-09	7-686-626-04	7-687-413-31	7-687-512-31
3 x 12	7-686-450-01	7-686-530-01	7-686-627-09	7-686-627-04	7-687-414-31	7-687-513-31
3 x 16	7-686-452-01	7-686-532-01	7-686-629-09	7-686-629-04		
3 x 20	7-686-453-01	7-686-533-01	7-686-630-09	7-686-630-04		
3 x 25	7-686-454-01	7-686-534-01	7-686-631-09	7-686-631-04		
4 x 8	7-686-468-01	7-686-548-01	7-686-635-09	7-686-635-04		
4 x 12	7-686-470-01	7-686-550-01	7-686-637-09	7-686-637-04		
4 x 14	7-686-471-01		7-686-638-09	7-686-638-04		
4 × 16	7-686-472-01		7-686-639-09	7-686-639-04		
4 × 20	7-686-473-01		7-686-640-09	7-686-640-04		

	FLAT WASHER SMALL W	FLAT WASHER MIDDLE W.	SPRING WASHER SW.	TOOTHED WASHER TYPE B LW.	HEXAGON NUT
2.6 mm	7-688-002-01	7-688-002-12	7-623-207-22	7-623-421-07	7-622-207-05
3 mm	7-688-003-01	7-688-003-12	7-688-003-11	7-623-422-07	7-684-023-04
4 mm	7-688-004-01	7-688-004-12	7-623-210-22	7-623-423-07	7-684-024-04
5 mm	7-688-005-01	7-688-005-01	7-623-212-22		7-684-025-04

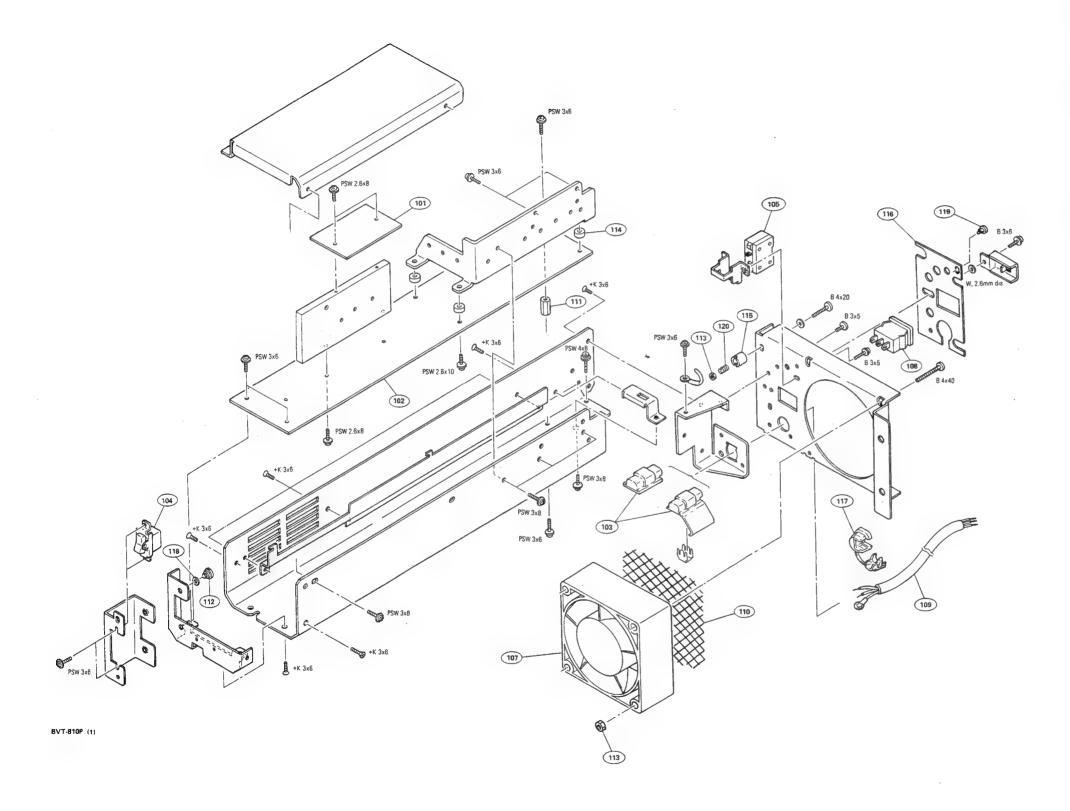
-	STOP RING E TYPE E.
2	7-624-104-04
2.3	7-624-105-04
3	7-624-106-04
4	7-624-108-04
5	7-624-109-04
6	7-624-110-04

Chassis Assy

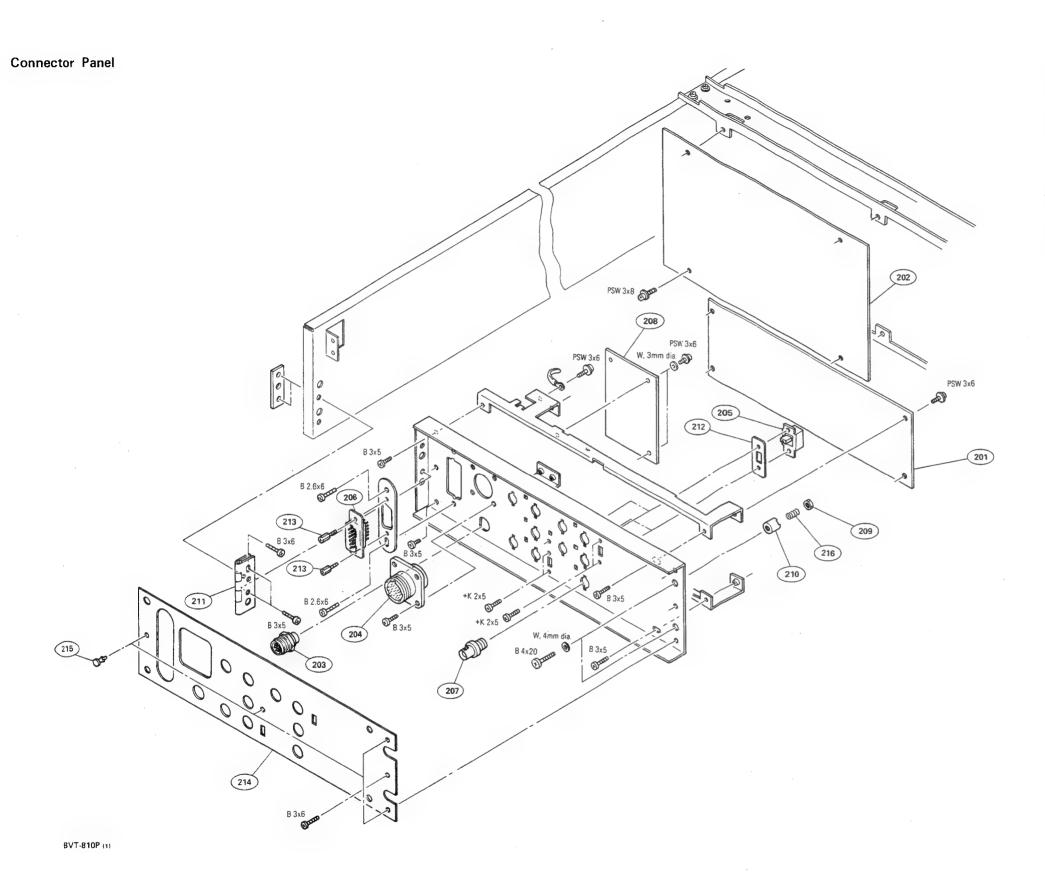


No.	Parts No.	SP	Descreption
1	A-6257-137-A	0	MOUNTED CIRCUIT BOARD, PR-40
2	A-6257-138-A	0	MOUNTED CIRCUIT BOARD, NR-11
3	A-6259-270-A	0	MOUNTED CIRCUIT BOARD, CK-11
4	A-6259-271-A	0	MOUNTED CIRCUIT BOARD, SG-21
5	A-6265-049-A	0	MOUNTED CIRCUIT BOARD, DP-24
6	A-6273-143-A	0	PROTECTOR ASSY
7	A-6273-144-B	0	PANEL ASSY, INDICATION
8	X-2275-501-0	s	HANDLE ASSY
9	X-3673-202-0	0	PLATE ASSY, STOPPER
10	X-3673-207-2	0	LEVER ASSY, STOPPER
			PANEL ASSY, FRONT
12	X-3673-229-1	0	PANEL (RIGHT) ASSY, SIDE
13	X-3673-230-1 X-3673-232-1	0	PANEL (LEFT) ASSY, SIDE STOPPER ASSY
14	X-3673-232-1	0	STOPPER ASSY
15	X-3673-234-1	0	BRACKET ASSY, PANEL
16	X-4310-310-0	s	FOOT ASSY
17	2-236-956-00	s	SCREW, STEP
18	2-251-642-00	0	GUARD, POWER SWITCH
19	2-252-630-02	0	PLATE, UNNAMENTAL, HANDLE
20	3-568-814-00	s	SPRING, TENSION
21	3-659-964-00	0	LABEL, CAUTION, GROUND
22	3-673-268-02	0	LID, UPPER
23	3-673-269-00	0	LID, BOTTOM
24	3-673-281-00 3-678-522-01	0	SPRING, COMPRESSION
25	3-678-522-01	0	SEAL, POSITION, PC BOARD
26	3-678-530-01	0	PANEL, BLANK
27	3-703-043-21	0	LABEL, CAUTION, MAIN
		0	LABEL, CAUTION
29	3-703-082-21 4-335-962-00	s	PUSH BUTTON
30	3-673-249-00	0	LEVER, PC BOARD
31	3-673-249-00	0	LEVER, PC BOARD
	X-3673-215-3		BRACKET ASSY, LOCK

Power Supply Assy



	No.	Part No.	SP	Description
				MOUNTED CIRCUIT BOARD, CT-29
**************************************	********	· • • • • • • • • • • • • • • • • • • •		NAMES OF THE PARTY
<i>∑</i> 1\	102	A-6263-042-A	0	MOUNTED CIRCUIT BOARD, PW-91A
※				CONNECTOR, DIVERGE
*		1-570-117-31		
		1-532-534-31		BREAKER, CIRCUIT
***********		1-541-170-31		FAN DC
	20.	- 541 170 51		,
300000000000000000000000000000000000000	*******		ÿ.	
A	108	1-554-011-00	s	SWITCH, SEESAW
<u></u> ЖД	109	1-556-559-31	g	CORD, POWER
90000				
	110	2-252-609-00	0	COVER, FAN
	111	2-280-622-11	0	SUPPORT (M3), HEXAGON
	112	3-630-415-00	8	SCREW, STEP, M3
		3-648-057-00		
	114	3-650-188-00	В	FLANGE, LOWER
		3-651-849-00		
	116	3-673-211-00	0	LABEL, REAR PANEL (RIGHT)
100000000000	xxxxxxxxx	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		,
A	117	3-673-298-00		STOPPER, CORD
₩				
	118	3-701-443-21	s	WASHER, POLY 5MM DIA., 0.5T
		4-812-134-11		
		4-823-115-00		
			_	



No.	Parts No.	SP	Description
201	A-6257-112-A	0	MOUNTED CIRCUIT BOARD, IV-4A
202			
			RECEPTACLE, 7P, MALE
	1-509-470-00		
	1-552-822-00		
206	1-560-495-00	s	RECEPTACLE, D-SUB 15P, MALE
207	1-561-781-21	s	RECEPTACLE, BNC
208	1-605~785-00	0	PRINTED CIRCUIT BOARD, CN-46
209	3-648-057-00	0	NUT, U
210	3-651-849-00	0	SPACER, PANEL
211	3-658-816-00	0	HINGE, FRONT
212	3-673-205-00	e	SPACER
213	3-673-910-00	0	SCREW, CONNECTOR
214	3-678-501-00	0	LABEL, REAR PANEL (L)
215	4-812-134-11	s	RIVET NYLON, 3.5
216	4-823-115-00	0	SPRING, COMPRESSION

25-3. ELECTRICAL PARTS LIST

Parts that are <u>not</u> listed in the "reference numbers order list" are shown in following table.

Reference numbers are omitted.

MYLAR CAPACITOR

 $0.00047\mu\text{F}$ through $0.22\mu\text{F}$

±5% 50WV



Parts No. Value -----467 $0.00047 \mu F$ 0.00056 468 469 0.00068 470 0.00082 0.001 471 0.0012 472 473 0.0015 0.0018 474 0.0022 475 476 0.0027 0.0033 477

- Parts No. 1-130-0 0 0-00

Value	Parts No.
0.0039μF	478
0.0047	479
0.0056	480
0,0068	481
0.0082	482
0.01	483
0,012	484
0,015	485
0.018	486
0.022	487
0.027	488

Value	Parts No.
0,033μF	489
0.039	490
0.047	491
0.056	492
0.068	493
0.082	494
0.1	495
0.12	496
0.15	497
0.18	498
0.22	499

CERAMIC CAPACITOR

 $0.001 \mu \text{F}$ through $0.1 \mu \text{F}$ 50WV



Parts No. 1-161-□□□-00 --

/		
Value	Parts No.	Substitute
0.001 µ	F 039	(1-102-074-00)
0.0012	040	
0.0015	041	
0.0018	042	
0.0022	043	(1-102-100-00)
0.0027	044	
0.0033	045	
0.0039	046	(1-102-124-00)
0.0047	047	
0.0056	048	
0.0068	049	
0.0082	050	

Value	Parts No.	Substitute
0.01 μF	051	(1-101-118-00)
0.012	052	
0.015	053	
0.018	054	
0.022	055	(1-101-005-00)
0.027	056	
0.033	057	
0.039	058	
0.047	059	(1-101-006-00)
0.056	060	
0.068	061	
0.082	062	
0.1	063	



ELECTROLYTIC CAPACITOR

0.47μF through 470μF 6.3WV through 100WV



—Parts No. 1-123-□□□-00 ——

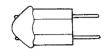
Value		Parts No.
0.47µF	0.47µF 50V	
	63	379
	100	
1	50	
	63	380
	100	
2.2	50	
	63	381
	100	
3.3	50	
	63	382
	100	
4.7	25	
	35	369
	50	309
	63	
	100	383
10	16	
	25	
	35	356
	50	
	63	370
	100	384
22	16	330
	25	330
	35	357
	50	307

Value	Parts No.	
22 μ F	63V	371
	100	385
33	6.3	
	10	318
	16	
	25	343
	35	343
	50	372
	63	3/2
	100	386
47	6.3	306
	10	300
	16	332
	25	332
	35	359
	50	333
	63	373
	100	387
100	6.3	307
	10	307
	16	333
	25	333
	35	345
	50	360
	63	374

Value	Parts No.			
100μF	100μF 100V			
220	6.3	308		
	10	308		
	16	321		
	25	334		
	35	346		
	50	361		
	63	375		
	100	389		
330	6.3	309		
	10_	309		
	16	322		
	25	335		
	35	347		
	50	362		
	63	376		
	100	390		
470	6.3	298		
	10	310		
	16	323		
	25	336		
	35	348		
	50	363		
	63	377		
	100	391		

MICRO INDUCTOR

1 μ H through 470 μ H $\pm 5\%$



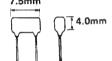
---- Parts No. 1-408-□□□-00 ----

Value	Parts No.	Value	Parts No. -□□□-	Value	Parts No.	Value	Parts No.
1 μΗ	397	4.7 μΗ	405	22 μΗ	413	100 μΗ	421
1.2	398	5.6	406	27	414	120	422
1.5	399	6.8	407	33	415	150	423
1.8	400	8.2	408	39	416	180	424
2.2	401	10	409	47	417	220	425
2.7	402	12	410	56	418	270	426
3.3	403	15	411	68	419	330	427
3.9	404	18	412	82	420	390	428
						470	429

METAL FILM RESISTOR

± 1%, 1/4W

10 Ω through 100k Ω



- Parts No. 1-214-□□□-00 -

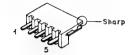
Value	Parts No.	Value	Parts No.	Value	Parts No.	Value	Parts No
10Ω	084	100Ω	108	1. 0 kΩ	132	10 kΩ	156
11	085	110	109	1.1	133	11	157
12	086	120	110	1.2	134	12	158
13	087	130	111	1.3	135	13	159
15	088	150	112	1.5	136	15	160
16	089	160	113	1.6	137	16	161
18	090	180	114	1.8	138	18	162
20	091	200	115	2.0	139	20	163
22	092	220	116	2.2	140	22	164
24	093	240	117	2.4	141	24	165
27	094	270	118	2.7	142	27	166
30	095	300	119	3.0	143	30	167
33	096	330	120	3.3	144	33	168
36	097	360	121	3.6	145	36	169
39	098	390	122	3.9	146	39	170
43	099	430	123	4.3	147	43	171
47	100	470	124	4.7	148	47	172
51	101	510	125	5.1	149	51	173
56	102	560	126	5.6	150	56	174
62	103	620	127	6.2	151	62	175
68	104	680	128	6.8	152	68	176
75	105	750	129	7.5	153	75	177
82	106	820	130	8.2	154	82	178
91	107	910	131	9.1	155	91	179
						100	180

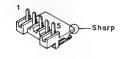
CONNECTOR

top-type receptacle

side-type receptacle











2P	1-508-900-00
3P	1-508-901-00
4P	1-508-902-00
5P	1-508-903-00
6P	1-508-904-00
8P	1-508-905-00
10P	1-508-906-00
12P	1-508-949-00

2P	1-508-933-00
3P	1-508-934-00
4P	1-508-950-00
5P	1-508-935-00
6P	1-508-936-00
8P	1-508-937-00
10P	1-508-951-00
12P	1-508-997-00

2P	1-509-983-00
3P	1-509-984-00
4P	1-509-985-00
5P	1-509-986-00
6P	1-509-987-00
8P	1-509-988-00
10P	1-509-989-00
12P	1-561-056-00

- 1	-0	O2	-9	O	_	~~	'

ABBREVIATIONS

Ref. No.	Description	Ref. No.	Description	Ref. No.	Description
BPOO	BAND-PASS FILTER	LOO	INDUCTOR	TOO	TRANSFORMER
CD0, CVD0	CAPACITOR	LP00	LOW-PASS FILTER	THOO	THERMISTOR
CFDD	CERAMIC FILTER	MOD	MOTOR	TPOO	TEST POINT
CNDD	CONNECTOR	QDD	TRANSISTOR	VCODO	VOLTAGE-
DEE	DIODE	ROO, RVOO	RESISTOR		CONTROLLED OSCILLATOR
DLOO	DELAY LINE	RBOO	RESISTOR BLOCK	XOO	CRYSTAL
FBOO	FERRITE BEAD	RYOD	RELAY	A B B	CHISTAL
ICDD	IC	S 🗆 🗆 , SW 🗆 🗆	SWITCH		

All capacitors are in micro farads unless otherwise specified.

All inductors are in mirco henries unless otherwise specified.

All resistors are in ohms.

```
Ref.No. Parts No. SP Description
                                                                                Ref.No. Parts No. SP Description
                                                                                FR1
                                                                                         1-535-178-00
CK-11A BOARD
                                                                                FR7
                                                                                         1-535-178-00
        A-6259-270-A o MOUNTED CIRCUIT BOARD, CK-11A
                                                                                         1-535-178-00
                                                                                FB3
                                                                                         1-535-178-00
                                                                                FB5
                                                                                         1-535-178-00
        1-107-210-00 s SILVERED MICA 22PF 5% 500V 1-107-210-00 s SILVERED MICA 22PF 5% 500V
C1
C2
                          E DIP MICA 470PF 5% 100V
                                                                                         8-749-938-10 s BX381(SONY)
C3
         1-109-553-00
                                                                                TC1B
                          6 SILVERED MICA 100PF 5% 50V
B SILVERED MICA 100PF 5% 50V
         1-107-085-00
                                                                                                              SN74265N(TI)
                                                                                ICIC
                                                                                         8-759-942-65
C4
Ċ5
         1-107-085-00
                                                                                ICID
                                                                                         8-759-900-51 s
                                                                                                              SN74LS51N(TI)
                                                                                ICLE
                                                                                         8-759-901-63
                                                                                                              SN74ISL63AN(TI)
                         s FILM 0.0047 5% 100V
s FILM 0.0022 5% 50V
         1-130-853-00
                                                                                                              SN74LS221N(TI)
                                                                                         8-759-902-21
C.6
                                                                                ICLE
 C7
         1-130-475-00
                          s TANTALUM 2.2 10% 25V
         1-131-355-00
 C8
                                                                                TCIG
                                                                                         8-759-901-63 s
                                                                                                              SN74IS163AN(TI)
                          s TANTALUM 0.47 10% 35V
s CERAMIC 470PF 10% 50V
         1-131-345-00
                                                                                         8-759-900-04
                                                                                                              SN74LS04N(TI)
 CQ
                                                                                TCIH
                                                                                                         S
 C14
         1-102-114-00
                                                                                ICIK
                                                                                        8-759-901-63
                                                                                                         s
                                                                                                              SN74LS163AN(TI)
                                                                                ICIL
                                                                                         8-759-901-75
                                                                                                              SN74LS175N(TI)
                          © CERAMIC 470PF 10% 50V
S TANTALUM 22 10% 16V
S TANTALUM 22 10% 16V
         1-102-114-00
                                                                                                              SN74LS164N(TI)
 C15
                                                                                TC1M
                                                                                         8-759-901-64
         1-131-373-00
1-131-373-00
 C19
 C20
                                                                                         8-759-901-23 s
                                                                                                              SN74S123N(TT)
                                                                                 TCIN
                           s CERAMIC 220PF 10% 50V

TANTALUM 0.47 10% 35V
         1-102-110-00
                                                                                        8-759-901-57
                                                                                                              SN74LS157N(TI)
 C23
                                                                                TC1P
                                                                                                         s
 C28
         1-131-345-00
                                                                                 ICIR
                                                                                         8-759-903-77
                                                                                                          s
                                                                                                              SN74LS377N(TI)
                                                                                ICIS
                                                                                         8-759-903-77
                                                                                                              SN741.S377N(TT)
                          s TANTALUM 0.47 10% 35V
s CERAMIC 470PF 10% 50V
s SILVERED MICA 82PF 5% 50V
         1-131-345-00
                                                                                                              SN74LS377N(TI)
 0.29
                                                                                         8-759-903-77
                                                                                 IC1T
 C31
         1-102-114-00
 C32
         1-107-083-00
                                                                                TCIH
                                                                                         8-759-901-66 s SN74LS166AN(TI)
                           s DIP MICA 150PF 5% 100V
s DIP MICA 150PF 5% 100V
         1-109-539-00
                                                                                 ICIV
                                                                                         8-759-901-28
                                                                                                              MSM5128-12RS(OKI)
 C33
                                                                                                         8
          1-109-539-00
                                                                                 ICIW
                                                                                         8-759-901-28
                                                                                                              MSM5128-12RS(OKI)
                                                                                 TCIX
                                                                                         8-759-903-74
                                                                                                              SN74LS374N(TI)
                         S TANTALUM 22 10% 16V
S TANTALUM 22 10% 16V
S SILVERED MICA 75PF 5% 50V
S DIP MICA 220PF 5% 100V
S SILVERD MICA 22PF 5% 500V
          1-131-373-00
                                                                                         8-759-901-64
                                                                                                              SN74LS164N(TI)
 C36
                                                                                 IClY
 C37
          1-131-373-00
          1-107-082-00
                                                                                         8-759-900-10 s SN74LS10N(TI)
 C38
                                                                                 IC2D
         1-109-542-00
1-107-210-00
                                                                                         8-759-901-75
                                                                                 IC2E
                                                                                                              SN74LS175N(TI)
 C43
 C46
                                                                                 IC2F
                                                                                         8-759-900-74
                                                                                                              SN74LS74AN(TI)
                                                                                 TC2G
                                                                                         8-759-901-63
                                                                                                              SN74LS163AN(TI)
          1-131-343-00 s TANTALUM 0.22 10% 35V
 C47
                                                                                         8-759-765-09
                                                                                                           s MB7051-YCDL2(FUJITSU)
                                                                                 IC2H
          1-131-343-00 s TANTALUM 0.22 10% 35V
 C48
                          s SILVERED MICA 47PF 5% 50V
s SILVERED MICA 47PF 5% 50V
s CERAMIC 75PF 5% 50V
          1-107-077-00
 C49
                                                                                 TC2K
                                                                                         8-759-903-67 s
                                                                                                              SN74LS367AN(TI)
          1-107-077-00
 C50
                                                                                         8-759-901-75
                                                                                                              SN74LS175N(TI)
                                                                                 IC2L
                                                                                                          s
 C55
          1-102-859-00
                                                                                 IC2M
                                                                                         8-759-900-04
                                                                                                               SN74LS04N(TI)
                                                                                 TC2N
                                                                                         8-759-900-00
                                                                                                           s
                                                                                                              SN74LSOON(TI)
          1-131-357-00 s TANTALUM 4.7 10% 25V 1-131-357-00 s TANTALUM 4.7 10% 25V
 C63
                                                                                         8-759-900-74
                                                                                                              SN74LS74AN(TI)
                                                                                 IC2P
  C64
                          s SILVERED MICA 75PF 5% 50V
          1-107-082-00
 C65
                                                                                 IC20
                                                                                         8-759-900-04 s
                                                                                                              SN74LSO4N(TI)
          1-131-373-00 s TANTALUM 22 10% 16V
1-131-373-00 s TANTALUM 22 10% 16V
          1-131-373-00
                                                                                 IC2R
                                                                                         8-759-903-74
                                                                                                          s
                                                                                                              SN74LS374N(TI)
  C66
  C68
                                                                                 IC2S
                                                                                         8-759-903-74
                                                                                                              SN74LS374N(TI)
                                                                                 IC2T
                                                                                         8-759-903-74
                                                                                                           s
                                                                                                              SN74LS374N(TI)
          1-109-561-00 s DIP MICA 0.001 5% 100V
                                                                                         8-759-901-66
                                                                                                           s SN74LS166AN(TI)
  C69
                                                                                 IC2U
          1-131-373-00 s TANTALUM 22 10% 16V
  C71
          1-109-561-00 s DIP MICA 0.001 5% 100V
  C72
                                                                                 IC2V
                                                                                         8-759-901-28 s
                                                                                                              MSM5128-12RS(OKI)
          1-131-344-00 s TANTALUM 0.33 10% 35V
1-102-110-00 s CERAMIC 220PF 10% 50V
                                                                                                              MSM5128-12RS(OKI)
                                                                                 IC2W
                                                                                         8-759-901-28
                                                                                                         s
  C78
                                                                                 IC2X
                                                                                          8-759-903-74
                                                                                                              SN74LS374N(TI)
  C82
                                                                                 TC2Y
                                                                                         8-759-901-64
                                                                                                           S
                                                                                                              SN741S164N(TT)
          1-102-110-00 s CERAMIC 220FF 10% 50V
1-102-110-00 s CERAMIC 220FF 10% 50V
                                                                                         8-759-240-20
                                                                                                              TC4020BP(TOSHIBA)
                                                                                 IC3A
  C131
  C132
                                                                                 TC3R
                                                                                         8-759-900-74 6
                                                                                                              SN74LS74AN(TI)
                                                                                         8-759-901-75
                                                                                                              SN74LS175N(TI)
                                                                                 IC3C
                                                                                                         .
                                                                                 IC3D
                                                                                          8-759-901-64
                                                                                                               SN74LS164N(TI)
          8-719-901-33 s 1SS133
8-719-901-33 s 1SS133
                                                                                 TC3E
                                                                                         8-759-901-51
                                                                                                           s
                                                                                                               SN74LS151N(TT)
  D1
                                                                                          8-759-240-20
                                                                                                              TC4020BP(TOSHIBA)
                                                                                 IC3F
  D2
           8-719-901-33 s 1SS133
8-712-540-06 s 1T25-41
  D3
  D4
                                                                                 TC3G
                                                                                         8-759-900-74 s
                                                                                                               SN74LS74AN(TT)
           [EK; S/N 10001 to 16300]
8-719-949-57 a 1T32-4
[EK; S/N 16301 and higher]
                                                                                         8-759-989-69
                                                                                                               SN74LS86AN(TI)
                                                                                 IC3H
                                                                                                          6
  D4
                                                                                                               SN74LSO4N(TI)
                                                                                 IC3K
                                                                                         8-759-900-04
                                                                                                          8
                                                                                 IC3L
                                                                                         8-759-901-28
                                                                                                               MSM5128-12RS(OKI)
           8-712-540-06 s 1T25-41
[EK; S/N 10001 to 16300]
  D5
                                                                                         8-759-901-28 s MSM5128-12RS(OKI)
                                                                                 IC3N
           8-719-949-57 s 1T32-4
[EK; S/N 16301 and higher]
  D5
                                                                                 IC3P
                                                                                         8-759-901-28 s MSM5128-12RS(OKI)
           8-719-901-33 a 1SS133
  D6
           8-719-901-33 s 188133
8-719-191-07 s RD9.1E
   D8
           8-719-901-33 s 1SS133
8-719-901-33 s 1SS133
   D9
  D10
           8-719-101-97 s 1SS97-1
8-719-911-19 s 1SS119
   D11
   D12
           8-719-911-19 s 1SS119
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				D C N.	. Parts No. SP	Description
Ref.No	. Parts No.	SP	Description	Kei.No	. Parts No. SP	Description
7.020	8-759-901-28	s	MSM5128-12RS(OK1)	IC6U	8-759-901-66 s	SN74LS166AN(TI)
IC3Q	8-759-901-28	6	MSM5128-12RS(OKI)	IC6V	8-759-901-28 s	MSM5128-12RS(OKI)
IC3S	8-759-901-28	5	MSM5128-12RS(OKI)	IC6W	8-759-901-28 s	MSM5128-12RS(OKI)
IC3T			SN74LS166AN(TI)	IC6X	8-759-903-74 s	SN74LS374N(TI)
IC3U	8-759-901-66	Е				SN74LS164N(T1)
IC3V	8-759-901-28	5	MSM5128-12RS(OKI)	IC6Y	8-759-901-64 s	5N/4E3104N(11/
IC3W	8-759-901-28	5	MSM5128-12RS(OKI)	IC7A	8-759-941-63 s	SN74163N(TI)
IC3X	8-759-903-74	В	SN74LS374N(TI)	IC7B	8-759-941-63 s	SN74163N(TI)
	8-759-901-64	s	SN74LS164N(TI)	IC7C	8-759-941-63 s	SN74163N(TI)
IC3Y			SN74LS163AN(TI)	IC7D	8-759-902-21 s	SN74LS221N(TI)
IC4A	8-759-901-63 8-759-902-21	5 S	SN74LS221N(TI)	IC7E	8-759-910-51 s	SN74S51N(TI)
IC4B	8-139-902-21	5	34/4102211(11)	ICIE	0-755-510-51 8	511405111(12)
IC4C	8-759-901-75	8	SN74LS175N(TI)	IC7G	8-759-900-59 s	HI1-0201-5(HARRIS)
IC4D	8-759-900-74	8	SN74LS74AN(TI)		[EK; S/N 10001	to 16300]
IC4E	8-759-900-00	5	SN74LSOON(TI)	IC7G	8-759-504-61 s	ADG201AKN
IC4F	8-759-900-74	5	SN74LS74AN(TI)		[EK; S/N 16301	and higher!
IC4G	8-759-756-85	s	TBP28S42NYADR(TI)	IC7H		SN74LS175N(TI)
1040	0 100 100 00			IC7K	8-759-900-74 s	
IC4H	8-759-901-74	5	SN74LS174N(TI)	IC7L	8-759-901-61 s	
		5	SN74LS166AN(TI)	IC7M	8-759-901-58 s	
IC4U	8-759-901-66		MSM5128-12RS(OKI)	10/11	0 /3/ 301 30 4	011742015011(117
IC4V	8-759-901-28	B		TOTAL	8-759-901-58 s	SN74LS158N(TI)
IC4W	8-759-901-28	5	MSM5128-12RS(OKI)	IC7N		
IC4X	8-759-903-74	S	SN74LS374N(TI)	IC7P	8-759-901-58 B	
				IC7Q	8-759-901-63 s	
IC4Y	8-759-901-64	В	SN74LS164N(TI)	IC7R	8-759-901-63 s	
IC5A	8-759-902-21	s	SN74LS221N(TI)	IC7S	8-759-903-74 E	SN74LS374N(TI)
IC5B	8-759-901-51	8	SN74LS151N(TI)			
IC5C	8-759-901-61	s	SN74LS161AN(TI)	IC7T	8-759-903-74 s	
IC5D	8-759-903-93	s	SN74LS393N(TI)	IC7U	8-759-901-66 s	
				IC7Y	8-759-901-64 s	
IC5E	8-759-900-04	В	SN74LSO4N(TI)	IC8A		SN74S113N(TI)
	8-759-906-69	8	SN74LS669N(TI)		[EK; S/N 10001	
IC5F			SN74LS684N(TI)	IC8A		SN74S113AN(TI)
IC5G	8-759-903-97	8			[EK; S/N 16201	
IC5H	8-759-906-69	8	SN74LS669N(TI)	IC8B	8-759-900-20 a	SN74LS20N(TI)
IC5K	8-759-900-00	8	SN74LS00N(TI)			
				IC8C	8-759-901-64 s	
IC5L	8-759-900-74	В	SN74LS74AN(TI)	IC8D	8-759-900-04 s	SN74LS04N(TI)
IC5M	8-759-900-00	S	SN74LS00N(TI)	IC8E	8-759-900-10 s	SN74LS10N(TI)
IC5N	8-759-906-29	S	MB8147E(FUJITSU)	IC8G	8-759-990-82 s	TL082CP(TI)
IC5P	8-759-906-29	s	MB8147E(FUJITSU)	IC8H	8-759-900-00 s	SN74LSOON(TI)
IC5Q	8-759-903-74	5	SN74LS374N(TI)			
				IC8K	8-759-901-14 s	SN74LS114AN(TI)
IC5R	8-759-903-74	g	SN74LS374N(TI)	IC8L	8-759-901-61 s	SN74LS161AN(TI)
IC5S	8-759-903-74	s	SN74LS374N(TI)	IC8M	8-759-901-61 s	SN74LS161AN(TI)
IC5T	8-759-903-77	s	SN74LS377N(TI)	IC8N	8-759-901-61 s	SN74LS161AN(TI)
IC5U	8-759-901-66	s	SN74LS166AN(TI)	IC8P	8-759-901-61 s	SN74LS161AN(TI)
1C5V	8-759-901-28	5	MSM5128-12RS(OKI)			
,				IC8Q	8-759-901-61 s	
IC5W	8-759-901-28	s	MSM5128-12RS(OKI)	IC8R	8-759-901-63 =	SN74LS163AN(TI)
IC5X	8-759-903-74	S	SN74LS374N(TI)	IC8S	8-759-900-08 s	
IC5Y	8-759-901-64	S	SN74LS164N(TI)	IC8T	8-759-900-32 a	SN74LS32N(TI)
	8-759-902-74	B	SN74LS423N(T1)	IC8U	8-759-901-66 s	SN74LS166AN(TI)
IC6A		В	SN74LS74AN(TI)			
IC6B	8-759-900-74	5	DATE TADE TRACE 4.4	IC8Y	8-759-901-64 s	
			CN7/1 C221 N(TT)	IC9A		SN74S113N(TI)
IC6C	8-759-902-21	В	SN74LS221N(TI)		[EK; S/N 10001	to 16200]
IC6D	8-759-900-08	8	SN74LSO8N(TI)	IC9A	8-759-508-60 s	SN74S113AN(TI)
IC6E	8-759-900-14	5	SN74LS14N(TI)		[EK; S/N 16201	and higher]
IC6F	8-759-906-69	8	SN74LS669N(TI)	IC9E		TL082CP(TI)
IC6G	8-759-906-69	8	SN74LS669N(TI)	IC9G	8-759-300-25	HD10125(HITACHI)
				IC9J	8-759-974-06 s	
IC6H	8-759-756-86	6	TBP28S42NCADR(TI)			
IC6K	8-759-901-14		SN74S114AN(TI)	IC9K	8-759-900-00 s	SN74LSOON(TI)
IC6L	8-759-901-63	8	SN74LS163AN(TI)	IC9L	8-759-900-04 s	SN74LSO4N(TI)
IC6M	8-759-901-58	8	SN74LS158N(TI)	IC9M	8-759-900-74 a	
IC6N	8-759-901-58	8	SN74LS158N(TI)	IC9P	8-759-103-19 s	
20014	3 , 3 , 70 2 70			IC9R	8-759-902-21 s	
IC6P	8-759-901-58	8	SN74LS158N(TI)			
IC6Q	8-759-904-96	5	MBM2149L-55(FUJITSU)	IC9S	8-759-745-60 s	NJM4560D(JRC)
IC6R	8-759-904-96	8	MBM2149L-55(FUJITSU)	IC9T	8-749-938-10 s	
	8-759-904-96	8	MBM2149L-55(FUJITSU)	1090	8-759-906-01 s	
IC6S	8-759-904-96		MBM2149L-55(FUJITSU)	1090	8-759-900-10 s	
IC6T	0-137-904-96	8	HDHZI47L-JJ(FUSIIDU/	IC9W	8-759-901-64 s	
				2038	J . J , J J Q Z Q W	

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Ref.No. Parts No. SP Description
Ref. No. Parts No. SP Description
                                                                             CN-46A BOARD
IC9X 8-759-903-93 s SN74LS393N(TI)
        8-759-903-93 B SN74LS393N(TI)
IC9Y
                                                                                     1-605-785-00 o PRINTED CIRCUIT BOARD, CN-46A
        8-759-901-75 s SN74LS175N(TI)
IC9Z
IC10A 8-759-900-00 s SN74LS00N(TI)
IC10D 8-759-957-09 = FT5709M(FUJITSU)
                                                                                     1-535-324-00 o TERMINAL, FASTEN
IC10H 8-759-990-84 s TL084CN(TI)
IC10K 8-759-103-19 s uPC319C(NEC)
       8-759-900-11 E SN74LS11N(TI)
8-759-900-58 E HA1-4905-5(HARRIS)
IC10M
TC10P
IC10R
        8-759-990-84 s TL084CN(TI)
        CT-29 BOARD
 IC10S 8-759-900-59
                                                                                      A-6263-037-A o MOUNTED CIRCUIT BOARD, CT-29
 IC10S
 TC10U
                                                                                      1-161-888-00 s CERAMIC 0.01 +80% -20% 50V
 IC10X
                                                                              C201
                                                                                                     S CERAMIC 0.01 +80% -.
S MYLAR 0.0043 5% 50V
S MYLAR 0.0047 5% 50V
S MYLAR 0.0047 5% 50V
S MYLAR 0.0047 5% 50V
                                                                                      1-108-570-00 s
1-108-595-00 s
 IC10Y
                                                                              C204
 IC102
                                                                              C206
                                                                                      1-106-188-00
                                                                              C207
                                                                              C208
                                                                                      1-106-188-00 s
         1-421-329-00 s CHOKE
                                                                                      1-106-176-00 s MYLAR 0.0015 5% 50V
1-106-176-00 s MYLAR 0.0015 5% 50V
 L3
                                                                              C209
         1-421-459-00
                              CHOKE
 L4
                                                                              C211
 15
         1-421-329-00
                              CHOKE
         1-421-329-00
                              CHOKE
 1.6
                                                                              D201 8-719-100-27 s RD4.7E-B
         1-407-564-00 s 1.5uH
1-407-565-00 s 2.2uH
 T.V.1
 I.V 2
                                                                              IC201 8-759-904-94 s TL494CN(TI)
IC202 8-759-145-57 s uPC4557C(NEC)
          8-729-612-77 s 2SA1027R
 01
                              2SC2724-E
          8-729-672-44
                         8
  02
                          s 2SC2724-E
          8-729-672-44
  Q3
                                                                              Q201 8-729-631-04 s 2SC1310
                             2SC2724-E
          8-729-672-44
          8-729-672-44
                          s 2SC2724-E
  05
          8-729-612-77
  06
                                                                                      1-247-131-00 s CARBON 1K 5% 1/4W 1-247-141-00 s CARBON 2.7K 5% 1/4W 1-247-165-00 s CARBON 27K 5% 1/4W
          8-729-672-44 s 2SC2724-E
8-729-612-77 s 2SA1027R
                                                                               R200
  Q7
                                                                               R201
  08
           8-729-672-44
                          s 2SC2724-E
                                                                               R202
  09
                                                                                      1-247-164-00 s CARBON 24K 5% 1/4W
1-247-164-00 s CARBON 24K 5% 1/4W
           8-729-672-44 s 2SC2724-E
                                                                               R203
  Q10
                                                                               R204
           8-729-672-44 s 2SC2724-E
  Q11
                                                                               R205
                                                                                       1-247-157-00 s
                                                                                                           CARBON 12K 5% 1/4W
                                                                                                          CARBON 9.1K 5% 1/4W CARBON 4.7K 5% 1/4W
                                                                               R206
                                                                                       1-247-154-00 s
                                                                                       1-247-147-00
                                                                               R207
                                                                                                      s
                               CERMET 2K
                                                                                       1-247-141-00
                                                                                                           CARBON 2.7K 5% 1/4W
           1-224-938-00 s
   RV1
                                                                               R208
                               CERMET 10K
           1-224-940-00 s
                                                                                       1-247-901-00 s
                                                                                                           CARBON 820K 5% 1/8W
   RV2
                                                                               R209
                               CERMET 10K
           1-224-940-00
   RV3
           1-224-940-00
                               CERMET 10K
                                                                                                           CARBON 820K 5% 1/8W
                                                                               R210
                                                                                       1-247-901-00 s
   RV4
                               CERMET 10K
                                                                                                          CARBON 2.7K 5% 1/4W
CARBON 10 5% 1/4W
   RV5
           1-224-940-00
                                                                                       1-247-141-00 s
                                                                               R211
                                                                                       1-247-083-00
                                                                               R212
                                                                                                      s
                                                                                                           CARBON 15K 5% 1/4W
                                                                                       1-247-159-00
                                                                               R213
                                                                                                      8
                                                                                     1-247-164-00
                                                                                                           CARBON 24K 5% 1/4W
           1-554-168-00 s SLIDE "Y/C DELAY"
1-552-509-00 s DIP "CHROMA INV/SHIFT"
   S 1
           1-552-509-00 s DIP
                                                                               R215
                                                                                       1-247-164-00 s
                                                                                                           CARBON 24K 5% 1/4W
   S2
                                                                                       1-247-159-00
                                                                                                           CARBON 15K 5% 1/4W
                                                                               R216
                                                                                                          CARBON 24K 5% 1/4W
CARBON 24K 5% 1/4W
                                                                               R217
                                                                                       1-247-164-00
                                                                                       1-247-164-00
                                                                               R218
           1-567-070-00 s 10.8750MHz
   X1
                                                                                       1-247-122-00
                                                                                                           CARBON 430 5% 1/4W
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Ref.No	. Parts No. S	Description	Ref.No. Parts No. SP Description
R220	1-247-131-00	CARBON 1K 5% 1/4W	D6 8-719-115-07 s RD15E
R221		CARBON 7.5K 5% 1/4W	D7 8-719-815-87 s 181587
R2 22		CARBON 1K 5% 1/4W	D8 8-719-815-87 # 1\$1587
1/2.22	1 147 131 00	STATE OF A TANK	D9 8-719-815-87 s 1S1587
			D10 8-719-151-07 s RD5.1E-B
RV 201	1-226-022-00	METAL FILM, 2K	DI1 8-719-115-07 m RD15E
RV202	1-226-023-00	METAL FILM, 5K	D12 8-719-815-55 m 1S1555
			D13 8-719-815-55 s 181555
			D16 8-719-104-10 s 1SS99
			D17 8-719-104-10 8 1SS99
			D18 8-719-815-55 s 1S1555
DP-24/	BOARD		D19 8-719-815-55 • 181555
			D2O 8-719-191-07 s RD9.1E
	A-6265-049-A	MOUNTED CIRCUIT BOARD, DP-24A	D21 8-719-815-55 s 1S1555
			D22 8-719-815-87 s 1S1587
	0 710 001 60	LT-9010N:GREEN "PAL"	
D1 D2		LT-9010N;GREEN "PAL" LT-9010N;GREEN (Not in use.)	Tp1 1_535_179_00 -
D2 D3		LT-9010N;GREEN (NOT IN USE.)	FB1 1-535-178-00 s FB2 1-535-178-00 s
D4		LT-9010N;GREEN "COMP"	FB3 1-535-178-00 s
D5		LT-9010N; GREEN "NORMAL"	FB4 1-535-178-00 s
			FB5 1-535-178-00 s
D6		B LT-9010H; YELLOW "BYPASS"	
D7		s LT-9010N; GREEN "ALL PRESET"	FB6 1-535-178-00 s
D8	8-719-901-34	B LD-033EB-1;R,G,R "INPUT LEVEL"	FB7 1-535-178-00 s
D9	8-719-901-34	B LD-033EB-1;R,G,R "ADV SYNC V PHASE"	
			FB9 1-535-178-00 s
IC1	8-759-974-07	s Sn7407n(T1)	
IC2	8-759-974-06	sn7406n(TI)	IC1 8-759-132-40 s uPC324C(NEC)
IC3	8-759-974-38	B SN7438N(TI)	IC2 8-759-974-38 s SN7438N(TI)
			IC3 8-759-000-05 m MC1496G(MOTOROLA)
			IC4 8-759-907-10 s TL710CP(TI)
			IC5 8-759-901-23 s SN74LS123N(TI)
			IC7 8-759-145-57 s uPC4557C(NEC)
IV-4A	BOARD		
	A-6257-112-A	MOUNTED CIRCUIT BOARD, IV-4A	
			L1 1-407-187-XX s 5.6uH
			L2 1-407-161-XX s 22uH
C9	1-161-898-00	■ CERAMIC 0.47 +80% -20% 50V	
C12	1-107-210-00	8 SILVERED MICA 22PF 5% 500V	LV1 1-408-874-00 s FIXED 81uH
C19	1-109-748-00	B DIP MICA 21PF 0.5PF 100V	
C20	1-109-545-00	s DIP MICA 270PF 5% 100V	
C22	1-106-184-00	B MYLAR 0.0033 5% 50V	
C31	1-107-085-00	s SILVERED MICA 100PF 5% 50V	Q1 8-761-510-06 s 25K58
C34		s MYLAR 0.001 5% 50V	Q2 8-729-658-32 s 28C1583-F O3 8-729-699-51 s 28A995
C35		B DIP MICA 220PF 5% 100V	Q3 8-729-699-51 s 2SA995 Q4 8-729-023-69 s 2N2369A
C38	1-131-359-00	# TANTALUM 10 10% 25V	Q5 8-729-023-69 s 2N2369A
C39		mYLAR 0.001 5% 50V	-
			Q6 8-761-622-00 s 25C1636-11
C40		B SILVERED MICA 22PF 5% 500V	Q7 8-761-622-00 s 2SC1636-11
C41		B TANTALUM 1 10% 35V	Q8 8-729-699-51 s 2SA995
C42	1-10/-210-00	s SILVERED MICA 22PF 5% 500V	Q9 8-729-658-32 s 2SC1583-F Q10 8-765-300-00 s 2SC2009
			Q10 8-765-300-00 s 2SC2009
			Q11 8-729-211-99 a 2SCI199
Dl	8-719-815-87	s 1S1587	Q12 8-729-211-99 s 2SC1199
D2	8-719-815-87	s 1S1587	
D3	8-719-815-87	s 1S1587	
D4	8-719-815-87	s 1S1587	
D5	8-719-151-07	s RD5.1E-B	

Serial No. 10001 to 10500

Ref.No.	Parts	No.	SP	Description
Q16	8-729-6	72-44	8	2SC2724-E
017	8-729-6	72-44	8	2SC2724-E
018	8-729-6	72-44	8	2SC2724-E
Q19	8-729-6		8	2SA1027R
R6 R91	1-247-8 1-247-8			
RV1	1-228-2	288-00	8	CERMET 100
RV2	1-224-9	978-00	8	METAL FILM 50
RV3	1-224-9	937-00	8	CERMET 1K
RV4	1-224-9	936-00	8	CERMET 500
RV5	1-224-	936-00	8	CERMET 500
RV6	1-224-	942-00	8	CERMET 50K

MB-13 BOARD

A-6265-060-A o MOUNTED CIRCUIT BOARD, MB-13

CN1	1-508-892-00	0	100P	
CN 2	1-508-892-00	0	100P	
CN3	1-508-892-00	0	100P	
CN4	1-508-709-00	0	RECEPTACLE, 5P	
CN 5	1-508-708-00	0	RECEPTACLE, 4P	
CN7	1-560-190-00	0	RECEPTACLE, 20P	
CN41	1-508-892-00	0	100P	

R1 1-213-131-00 s METAL OXIDE FILM 100 5% 1W R2 1-213-131-00 s METAL OXIDE FILM 100 5% 1W Ref.No. Parts No. SP Description

NR-11 BOARD

This board includes the TX-3 BOARD.

A-6257-138-A @ MOUNTED CIRCUIT BOARD, NR-11

BP201	1-235-207-00	8	BPF
C7	1-107-209-00	8	SILVERED MICA 20PF 5% 500V
C8		8	SILVERED MICA 10PF 5% 500V
C16		8	SILVERED MICA 150PF 5% 50V
			SILVERED MICA 82PF 5% 50V
C24	1-107-083-11	8	
C29	1-107-048-00	8	SILVERED MICA 6.8PF 0.5PF 500V
C30	1-107-210-00	8	SILVERED MICA 22PF 5% 500V
C108	1-107-202-00	6	SILVERED MICA 10PF 5% 500V
C109	1-124-478-11	8	ELECT 100 20% 25V
C112	1-107-085-00	8	SILVERED MICA 100PF 5% 50V
C118	1-107-093-00	8	SILVERED MICA 220PF 5% 50V
C119	1-124-478-11	8	ELECT 100 20% 25V
C132	1-109-559-00	8	DIP MICA 820PF 5% 100V
C133	1-109-561-00	8	DIP MICA 0.001 5% 100V
C142	1-107-159-00	8	SILVERED MICA 33PF 5% 500V
C210	1-107-081-00	8	SILVERED MICA 68PF 5% 50V
C212	1-107-089-00	s	SILVERED MICA 150PF 5% 50V
C219	1-107-089-00	s	SILVERED MICA 150PF 5% 50V
C221	1-107-077-00	8	SILVERED MICA 47PF 5% 50V
C222	1-107-077-00	8	SILVERED MICA 47PF 5% 50V
C227	1-107-210-00	8	SILVERED MICA 22PF 5% 500V
0227			102003
0007			SILVERED MICA 68PF 5% 500V
C227	1-107-081-00	8	
	Es/N ; 10201	Co	105003
C230	1-107-081-00	8	SILVERED MICA 68PF 5% 50V
C231	1-107-093-00	8	SILVERED MICA 220PF 5% 50V
C236	1-107-079-00	8	SILVERED MICA 56PF 5% 50V
C258	1-107-159-00	8	SILVERED MICA 33PF 5% 500V
C259	1-107-159-00	8	SILVERED MICA 33PF 5% 500V
C263	1-107-202-00	8	SILVERED MICA 10PF 5% 500V
	[S/N ; 10319	to	105003
C264	1-107-202-00	8	SILVERED MICA 10PF 5% 500V
	CS/N; 10319	to	105003
C266	1-131-408-00	8	ELECT 1 10% 25V
C267	1-131-408-00	8	ELECT 1 10% 25V
C268	1-131-345-00	8	ELECT 0.47 10% 25V
		_	
C269	1-131-408-00	8	ELECT 1 10% 25V
C270	1-131-408-00	8	ELECT 1 10% 25V
C277	1-107-204-00	8	SILVERED MICA 12PF 5% 500V
C277	1-107-204-00	8	SILVERED MICA 39PF 5% 50V
C278	1-107-204-00		SILVERED MICA 12PF 5% 500V
6219	1-107-204-00	8	SILVERED MICH 1211 3% 3001
0000	1 107 001 00	_	SILVERED MICA 68FF 5% 50V
C288	1-107-081-00	8	
C291	1-107-077-00	8	SILVERED MICA 47PF 5% 50V
C292	1-107-081-00	8	SILVERED MICA 68PF 5% 50V
C296	1-107-209-00	8	SILVERED MCIA 20FF 5% 500V
C297	1-107-081-00	8	SILVERED MICA 68PF 5% 50V
C323	1-107-077-00	8	SILVERED MICA 47PF 5% 50V
C326	1-107-085-00	8	SILVERED MICA 100PF 5% 50V
C329	1-107-077-00	8	SILVERED MICA 47PF 5% 50V
C330	1-107-085-00	8	SILVERED MICA 100PF 5% 50V
C332	1-107-211-00	8	SILVERED MICA 24PF 5% 500V
C333	1-107-089-00	8	SILVERED MICA 150PF 5% 50V
C339			SILVERED MICA 100PF 5% 50V
C342	1-107-077-00	•	SILVERED MICA 47PF 5% 50V
C343			SILVERED MICA 100PF 5% 50V
C346	1-107-157-00		SILVERED MICA 27PF 5% 500V
0340	7-101-131-00	8	SINGLED HIVE EITE JA 3001
C370	1-107-081-00		SILVERED MICA 68PF 5% 50V
C351	1-107-081-00	8	SILVERED MICA 22PF 5% 500V
0331	ES/N : 10001		
	€2/N ; 10001	T (103107

Serial No. 10001 to 10500

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D - 5 N -	. Parts No. SI	Description	Ref No	. Parts No.	SP	Description
Kei.No	. Parts No. SI	Description				
	1-141-245-00		IC207	8-759-907-34	8	uA733HC(FSC) TL084CN(T1)
CV202	1-141-245-00	CERAMIC 30PF	1C2O8 1C2O9	8-759-990-84 8-759-900-59	8	HI1-201(HARRIS)
			IC210	8-749-936-51	8	BX365A(SONY)
			IC211	8-749-938-90	8	BX389(SONY)
D1	8-719-127-07	RD2.7E			-	
D2	8-719-101-97		IC212	8-759-930-54	8	CA3054(RCA)
D3	8-719-101-97	18897-1	IC213	8-749-938-90	Б	BX389(SONY)
D101	8-719-101-97	18897-1				
D102	8-719-101-97	18897-1				
D103	0 710 001 22	1SS133	L2	1-407-504-00	6	10mH
D103 D104	8-719-901-33 8-719-901-33	3 155153 3 155133	L8	1-421-329-00	8	CHOKE
D201		RD5.6E-B	L9	1-421-329-00	8	CHOKE
D202		188133	L104	1-421-329-00	8	CHOKE
D203	8-719-930-12	EQB01-12Z	L105	1-421-329-00	8	CHOKE
			7 201	1 /01 220 00		CHOUP
D204	O 127 2 10 11	B RD4.3E-B	L201 L202	1-421-329-00	8	CHOKE
D205		188133	L202	1-421-329-00	8	CHOKE
D206 D207		s 188133 s 188133	L204	1-421-329-00		CHOKE
D208		188133				
2200	0 / 1 / / /					
D209	0 127 740 00	1SS133	1 2 2 4 4	1 025 / **		
D210	0 /27 /02 00	188133		1-235-472-11	8	LPF
D211	0 /1/ /02 00	3 188133 3 188133	LP201 LP202	1-235-150-00 1-235-048-21	8	LPF LPF
D212	0 / 42 22		LIZUZ	1-233-040-21	8	ne r
D213	8-719-901-33	188133				
D214	8-719-101-97	B 1SS97-1				
D215	8-719-156-07	RD5.6E-B	LV101	1-407-571-00	s	22uH
D216	0 / - / - /	1SS133				
D217		188133				
D218	8-719-901-33	s 1SS133	Q1	8-729-603-30	8	2SC403SP-3
D219	8-719-901-33	198133	Q2	8-729-603-30		2SC403SP-3
D219		188133	Q3	8-729-603-30		2SC403SP-3
D221		s 18897-1	Q4	8-729-603-30	6	2SC403SP-3
D222		18897-1	Q5	8-729-384-46	8	2SA844-C
D223	8-719-101-97	s 1SS97-1				
			Q6	8-729-603-30		2SC403SP-3
D224	8-719-901-33	B 1SS133	Q7 Q8	8-729-603-30 8-729-603-30	8	2SC403SP-3 2SC403SP-3
			Q9	8-729-603-30	_	2SC403SP-3
			Q13	8-729-023-69		2N2369A
DLIGI	1-415-404-11	s 226nsec				
DL102	1-415-121-00	s 100nsec	Q101	8-729-603-30		2SC403SP-3
DL201		s 520nsec	Q102	8-729-603-30		2SC403SP-3
DL202		63.970usec,64.005usec	Q103 Q104	8-729-603-30 8-729-603-30	8	2SC403SP-3 2SC403SP-3
DL203	1-415-232-00	s 63.943usec	0105	8-729-201-04	_	2SC2878-A
DL204	1-415-232-00	s 63.943usec	4		-	
DL204		s 300nsec	Q106	8-729-603-30	8	2SC403SP-3
DL206		s 300nsec	Q107	8-729-603-30	9	2SC403SP-3
DL207	1-415-402-11	s 300nsec	Q108	8-729-603-30	8	2SC403SP-3
			Q109 Q110	8-729-612-77 8-729-612-77	8	2SA1027R 2SA1027R
			4110	0-125-012-11	8	TORIVEIN
IC1	8-749-938-90	B BX389(SONY)	Q111	8-729-603-30	8	2SC403SP-3
IC2		B TA7060AP(TOSHIBA)	Q112	8-729-603-30	8	2SC403SP-3
IC3		B BX389(SONY)	Q201	8-729-612-77	8	2SA1027R
IC4	8-759-200-60	TA7060AP(TOSHIBA)	Q202	8-729-606-33	8	2SC2603-F
IC5	8-759-200-60	B TA7060AP(TOSHIBA)	Q203	8-729-606-33	8	2SC2603-F
***	074003.000	BX389(SONY)	Q204	8-729-606-33	8	2SC2603-F
106 107		B BX389(SONY) B BX365A(SONY)	Q205	8-729-606-33	S	2SC2603-F
10101		BX389(SONY)	Q206	8-729-606-33	8	2SC2603-F
IC102		MC1495L(MOTOROLA)	Q207	8-729-606-33	8	2SC2603-F
10103		BX1250(SONY)	Q208	8-729-606-33	8	2SC2603-F
		av7/********	Q209	8-729-612-77	8	2SA1027R
IC104		s SN74LS12N(TI) s TA7060AP(TOSHIBA)	Q210	8-729-606-33	8	2SC2603-F
IC105 IC106		BX1256(SONY)	Q211	8-729-606-33	8	2SC2603-F
10106		TA7060AP(TOSHIBA)	Q212	8-729-612-77	8	2SA1027R
10201		SN74LSO4N(TI)	Q213	8-729-178-72	8	2SC2787-L
			0217	0.720170.70		2002797*
IC202		s SN74LS221N(TI)	Q214 Q215	8-729-178-72 8-729-178-72	8	2SC2787-L 2SC2787-L
IC203	•	SN74LS221N(TI)	Q215	8-729-110-52	8	2SA1005-L
IC204		s SN74LS10N(TI) s uA796HC(FSC)	Q217	8-729-178-72	8	2SC2787-L
IC205 IC206		uA733HC(FSC)	Q218	8-729-110-52	B	2SA1005-L
_0200	3					

Serial No. 10001 to 10500

Ref.No	. Parts No. S	P	Description	Ref.No	. Parts No.	SP	Description
				RV1	1-224-937-00		CERMET 1K
Q219	8-729-105-72			RV2	1-224-937-00		
Q220	8-729-178-72		2SC2787-L	RV3	1-224-937-00		
Q221	8-729-178-72			RV4	1-224-941-00		
Q222	8-729-110-52				1-224-937-00		
Q223	8-729-178-72	В	2SC2787-L		1 421 307 00	•	
0001	0 700 110 53	_	2SA1005-L	RV102	1-224-935-00	8	CERMET 200
Q224	8-729-110-52 8-729-110-52				1-224-943-00		
Q225	8-729-110-52				1-224-943-00		
Q226	8-729-110-52				1-224-938-00		
Q227 Q228	8-729-606-33				1-224-937-00		
QZZO	0-729-000 33		2502005				
Q229	8-729-606-33	6	2 SC2603-F	RV107	1-224-937-00	8	CERMET 1K
Q230	8-729-606-33				1-224-940-00		
Q231	8-729-606-33			RV201	1-224-936-00	8	CERMET 500
Q232	8-729-606-33				1-224-940-00		
Q233	8-729-178-72			RV203	1-224-939-00	5	CERMET 5K
,							
Q234	8-729-606-33	5	2SC2603-F		1-224-936-00		
Q235	8-729-612-77	S	2SA1027R		1-224-936-00		
Q236	8-729-606-33	s	2SC2603-F				METAL FILM 50
Q237	8-729-178-72	Б	2SC2787-L				METAL FILM 50
Q238	8-729-606-33	s	2SC2603-F	KY2U6	1-224-937-00	8	VERMEL IR
				pusaa	1-224-937-00		CERMET 14
Q239	8-729-606-33				1-224-937-00		
Q240	8-729-606-33				1-224-936-00		
Q241	8-729-606-33				1-224-937-00		
Q242	8-729-606-33				1-224-937-00		
Q243	8-729-606-33	S	2SC2603-F	111413		8	OLIMAN AND AND AND AND AND AND AND AND AND A
				RV214	1-224-937-00	g	CERMET 1K
Q244	8-729-612-77			41764	S/N. 10001		
Q2 45	8-729-606-33			RV214	1-228-456-00		
Q246	8-729-606-33			207224	S/N. 10301		
Q247	8-729-606-33			RV215	1-224-937-00		
Q248	8-729-606-33	8	2SC26U3-F		1-224-937-00		
			0.0000000000000000000000000000000000000				METAL FILM 50
Q249	8-729-606-33					_	
Q250	8-729-606-33						
Q251	8-729-606-33						* * * * * * * * * * * * * * * * * * *
Q2 5 2	8-729-606-33			S101	1-554-010-00	8	TOGGLE "C-ENH ON/OFF"
Q253	8-729-606-33	8	2502603-1	S201			TOGGLE "C-NR ON/OFF"
Q254	8-729-606-33		25C26D3-F	S202	1-552-509-00	8	DIF "BEAT CANCELLER ON/OFF"
Q255	8-729-606-33						
Q256	8-729-606-33						
Q257	8-729-606-33						
Q258	8-729-606-33			TH202	1-800-200-00	6	S-3K
Q230	0 , 23 000 00	-					
Q259	8-729-606-33	s	2SC2603-F				
Q260	8-729-606-33						
Q261	8-729-612-77			X201	1-527-861-00	8	30MHz
Q262	8-729-612-77	s	2SA1027R				
Q263	8-729-606-33	8	2SC2603-F				
Q264	8-729-612-77						
Q265	8-729-612-77						
Q267	8-729-606-33			77.2	ROAPD		
Q268	8-729-178-72			TX-3 1	DUARIU .		
Q269	8-729-606-33	8	2SC2603-F		All of the o	omp	onent parts on TX-3 board are
	0 700 (0) (1		0.0004.03				er when you order NR-11 board.
Q270					ambhiten ros	e e tit	II will you order Mr-11 board.
Q271							
Q272	8-729-606-33				1-613-938-11	0	PRINTED CIRCUIT BOARD, TX-3
Q273					_ 0.0 /50 11	•	The second of th
Q274	8-729-612-77	8	ZDAIUZ/K				
0275	0 720 170 70	_	20027971				
Q275	8-729-178-72			C352	1-107-048-00	8	SILVERED MICA 6.8PF 0.5PF 500V
Q276				C353			SILVERED MICA 27PF 5% 500V
Q277						-	
Q278							
Q279	0-127-110-12	s	2002101-F				
Q280	8-729-178-72	o	25C2787-I.	Q281	8-729-606-32	8	2SC2603-E
Q2 00	0-127-110-12	3	EDUE: UI M	Q282	8-729-612-77		
				-			
R255	1-247-883-00	s	CARBON 150K 5% 1/6W				
				7711707			
R267		s	CARBON 1M 5% 1/6W	111203	1-800-200-00	О	8-3K
R267 R473	1-247-903-00		CARBON 1M 5% 1/6W CARBON 120K 5% 1/6W	111203	1-800-200-00		5-3K
	1-247-903-00 1-247-881-00	s		18203	1-800-200-00	6	S-3K

Serial No. 10501 and higher

1-141-245-00 s CERAMIC 30PF 1-141-245-00 s CERAMIC 30PF

CV203 1-141-245-00 B CERAMIC 30PF

CV202

Ref.No. Parts No. SP Description Ref.No. Parts No. SP Description NR-11 BOARD n1 8-719-127-07 s RD2.7E 8-719-101-97 в 15597-1 D2 A-6257-138-A D MOUNTED CIRCUIT BOARD, NR-11 D3 8-719-101-97 s 15597-1 D101 8-719-101-07 19997-1 15597-1 D102 8-719-101-97 8 188133 BP201 1-235-207-00 s BPF D103 8-719-901-33 D104 8-719-901-33 в 188133 D201 8-719-156-07 s RD5.6E-B 1-107-209-00 s SILVERED MICA 20PF 5% 500V 1-107-202-00 s SILVERED MICA 10PF 5% 500V D202 8-719-901-33 155133 CR D203 8-719-930-12 8 EO BO 1-12Z 1-107-089-00 s SILVERED MICA 150PF 5% 50V C16 1-107-083-11 s SILVERED MICA 82PF 5% 50V n204 RD4.3E-B C24 8-719-143-07 1-107-048-00 s SILVERED MICA 6.8PF 0.5PF 500V 029 D205 8-719-901-33 s 100133 8-719-901-33 s 1SS133 D206 SILVERED MICA 22PF 5% 500V 8-719-901-33 1-107-210-00 s 8 SILVERED MICA 10PF 5% 500V C108 1-107-202-00 s 1-124-478-11 B D208 8-719-901-33 188133 ELECT 100 20% 25V C109 1-107-085-00 s SILVERED MICA 100PF 5% 50V D209 C112 8-719-901-33 1-107-093-00 s SILVERED MICA 220PF 5% 50V C118 D210 8-719-901-33 s 1SS133 D211 8-719-901-33 s 1SS133 1-109-559-00 s DIP MICA 820PF 5% 100V 1-109-561-00 s DIP MICA 0.001 5% 100V 1-107-159-00 s SILVERED MICA 2200 8-719-901-33 C119 D212 8-719-901-33 s 1SS133 8-719-901-33 s 1SS133 D213 C133 SILVERED MICA 33PF 5% 500V C142 D214 s 1SS97-1 8-719-101-97 1-107-081-00 B SILVERED MICA 68PF 5% 50V C210 D215 8-719-156-07 s RD5.6E-B D216 8-719-901-33 **s** 1SS133 C212 1-107-089-00 s SILVERED MICA 150PF 5% 50V 8-719-901-33 s 188133 s 188133 D217 1-107-089-00 s SILVERED MICA 150PF 5% 50V 1-107-077-00 s SILVERED MICA 47PF 5% 50V 1-107-077-00 s SILVERED MICA 47PF 5% 50V D218 8-719-901-33 0221 D219 8-719-901-33 188133 C222 1-107-081-00 s SILVERED MICA 68PF 5% 500V C227 D220 8-719-901-33 s 155133 8-719-101-97 8-719-101-97 D221 18897-1 1-107-081-00 s SILVERED MICA 68PF 5% 50V C230 15597-1 D222 8 1-107-093-00 s SILVERED MICA 220PF 5% 50V 1-107-079-00 s SILVERED MICA 56PF 5% 50V 1-107-159-00 s SILVERED MICA 33PF 5% 500V C231 D223 8-719-101-97 18897-1 C236 8-719-901-33 s 1SSI33 D224 C258 SILVERED MICA 33PF 5% 500V C259 1-107-159-00 s SILVERED MICA 10PF 5% 500V 1-107-202-00 s C263 SILVERED MICA 10PF 5% 500V C264 1-107-202-00 s DL101 1-415-404-11 s 226nsec 1-131-408-00 s ELECT 1 10% 25V 1-131-408-00 s ELECT 1 10% 25V C266 1-415-121-00 s DL102 100nsec 1-131-408-00 s C267 D1.201 1-415-406-11 520neac 1-131-345-00 s ELECT 0.47 10% 25V C268 1-415-500-11 63.970usec,64.005usec DL202 DL203 1-415-232-00 63.943usec C269 1-131-408-00 s 1-131-408-00 s ELECT 1 10% 25V C270 DL204 1-415-232-00 a 63.943usec 1-107-204-00 s SILVERED MICA 12PF 5% 500V 1-107-075-00 s SILVERED MICA 39PF 5% 50V 1-107-204-00 s SILVERED MICA 12PF 5% 500V C277 DL 205 1-415-402-11 300nsec 300nsec DL206 1-415-402-11 s C279 DL.207 1-415-402-11 s 300nsec 1-107-081-00 s SILVERED MICA 68PF 5% 50V C288 1-107-077-00 s SILVERED MICA 47PF 5% 50V C291 1-107-081-00 s SILVERED MICA 68PF 5% 50V 8-749-938-90 s BX389(SONY) C292 TCI SILVERED MCIA 20PF 5% 500V 1-107-209-00 8-759-200-60 s TA7060AP(TOSHIBA) C296 s IC2 1-107-081-00 s SILVERED MICA 68PF 5% 50V IC3 8-749-938-90 s BX389(SONY) C297 8-759-200-60 s 8-759-200-60 s TA7060AP(TOSHIBA) TC4 SILVERED MICA 47PF 5% 50V TA7060AP(TOSHIBA) 1-107-077-00 s IC5 C323 SILVERED MICA 100PF 5% 50V C326 1-107-085-00 s SILVERED MICA 47PF 5% 50V SILVERED MICA 100PF 5% 50V BX389(SONY) C329 1-107-077-00 s TC6 8-749-938-90 s 1-107-085-00 s 8-749-936-51 s BX365A(SONY) IC7 C330 1-107-089-00 s SILVERED MICA 150PF 5% 50V C333 IC101 8-749-938-90 s BX389(SONY) MC1495L(MOTOROLA) 8-759-014-95 IC102 8 SILVERED MICA 100PF 5% 50V 8-741-125-00 BX1250(SONY) C339 1-107-085-00 s IC103 s SILVERED MICA 47PF 5% 50V SILVERED MICA 100PF 5% 50V SILVERED MICA 27PF 5% 500V 1-107-077-00 s C342 IC104 8-759-900-12 a SN74LS12N(TI) C343 1-107-085-00 s 8-759-200-60 TA7060AP(TOSHIBA) IC105 C346 1-107-157-00 8 8 1-107-081-00 s SILVERED MICA 68PF 5% 50V IC106 8-741-125-60 s BX1256(SONY) C349 8-759-200-60 s 8-759-900-04 s TA7060AP(TOSHIBA) IC107 SN74LSO4N(TI) 1-107-159-00 s SILVERED MICA 33PF 5% 500V 1-107-048-00 s SILVERED MICA 6.8PF 0.5PF 500V IC201 C351 C352 IC202 8-759-902-21 s SN74LS221N(TI) 1-107-157-00 s SILVERED MICA 27PF 5% 500V C353 8-759-902-21 s SN74LS221N(TI) IC203

IC204

8-759-900-10 s SN74LS10N(TI)

Serial No. 10501 and higher

Ref.No.	. Parts No. SI	P Description		Ref.No	. Parts No. SP Description
IC205	8-759-000-05	s MC1496G(MOTOROLA)		0214	8-729-178-72 s 2SC2787-L
IC206		B uA733HC(FSC)		Q215	8-729-178-72 s 2SC2787-L
IC207		s uA733HC(FSC)		0216	8-729-110-52 s 2SA1005-L
IC208		s TLO84CN(TI)		`	[EK; S/N. 10501 to 15700]
IC209		8 HI1-0201-5(HARRIS)		Q216	8-729-110-53 s 2SA1005-K
	[EK; S/N 10001	to 16300]		•	[EK; S/N 15701 and higher]
IC209	8-759-504-61	B ADG201AKN		Q217	8-729-178-72 s 2SC2787-L
	[EK; S/N 16301	and higher]		Q218	8-729-110-52 s 2SA1005-L
					[EK; S/N. 10501 to 15700]
IC210	8-749-936-51	BX365A(SONY)		Q218	8-729-110-53 a 2SA1005-K
IC211	8-749-938-90	s BX389(SONY)			[EK; S/N 15701 and higher]
IC212		s CA3054(RCA)			
IC213	8-749-938-90	BX389(SONY)		Q219	8-729-105-72 s 2SK523-L1
				Q220	8-729-178-72 s 2SC2787-L
				Q221	8-729-178-72 s 2SC2787-L
	1 /07 166 VV	- E6TI		Q222	8-729-110-52 B 2SA1005-L
Ll	1-407-166-XX S/N; 10601	s 56uH			[EK; S/N. 10501 to 15700]
L2		s 10mH		Q222	8-729-110-53 s 2SA1005-K
L8		s CHOKE			[EK; S/N 15701 and higher]
L9		s CHOKE		Q223	8-729-178-72 s 2SC2787-L
L104		s CHOKE		022/	8-729-110-52 s 2SA1005-L
	• ,			Q224	[EK; S/N. 10501 to 15700]
L105	1-421-329-00	s CHOKE		Q224	8-729-110-53 8 2SA1005-K
L201		s CHOKE		4-4-	[EK; S/N 15701 and higher]
L202	1-421-329-00	s CHOKE		Q225	8-729-110-52 s 2SA1005-L
L203		s CHOKE		4	[EK; S/N. 10501 to 15700]
L204	1-421-329-00	s CHOKE		Q225	8-729-110-53 = 2SA1005-K
				,	[EK; S/N 15701 and higher]
·				Q226	8-729-112-06 s 2SA1206-K
	1 025 472-11	s LPF		Q227	8-729-112-06 s 2SA1206-K
LP101	1 200	s LPF		Q228	8-729-606-33 s 2SC2603-F
LP201		a LPF			
LP202	1-233 040 21	3 A11		Q229	8-729-606-33 s 2SC2603-F
				Q230	8-729-606-33 a 2SC2603-F
			•	Q231	8-729-606-33 s 2SC2603-F
LV101	1-407-571-00	s 22uH		Q232	8-729-606-33 s 2SC2603-F
				Q233	8-729-178-72 s 2SC2787-L
				003/	0 700 (0) 22 - 0000(02 F
				Q234	8-729-606-33 s 2SC2603-F
Q1		s 2SC403SP-3		Q235	8-729-612-77 s 2SA1027R 8-729-606-33 s 2SC2603-F
Q2		s 2SC403SP-3		Q236	8-729-178-72 a 2SC2787-L
Q3	0 ,	s 2SC403SP-3		Q237 Q238	8-729-606-33 a 2SC2603-F
Q4	8-729-603-30 8-729-384-46	s 2SC403SP-3 s 2SA844-C		QLJU	0 ,2 , 000 33 0 200000 1
Q5	0-/23-304-40	s 23A044 C		Q239	8-729-606-33 a 2SC2603-F
Q6	8-729-603-30	s 2SC403SP-3		Q240	8-729-606-33 s 2SC2603-F
Q7	8-729-603-30	■ 2SC403SP-3		Q241	8-729-606-33 s 2SC2603-F
Q8	8-729-603-30	s 2SC403SP-3		Q242	8-729-606-33 s 2SC2603-F
Q9	8-729-603-30	s 2SC403SP-3		Q243	8-729-606-33 s 2SC2603-F
Q13	8-729-023-69	s 2N2369A			·
•				Q244	8-729-612-77 s 2SA1027R
Q101	8-729-603-30	s 2SC403SP-3		Q245	8-729-606-33 s 2SC2603-F
Q102	8-729-603-30	s 2SC403SP-3		Q246	8-729-606-33 s 2SC2603-F
Q103	8-729-603-30	s 2SC403SP-3		Q247	8-729-606-33 s 2SC2603-F
Q104	8-729-603-30	s 2SC403SP-3		Q248	8-729-606-33 s 2SC2603-F
Q105	8-729-201-04	s 2SC2878-A		Q249	8-729-606-33 s 2SC2603-F
0100	0_720_602_20	■ 2SC403SP-3		Q249 Q250	
Q106	8-729-603-30 8-729-603-30	<pre>8 2SC403SP-3 8 2SC403SP-3</pre>		Q251	8-729-606-33 s 2SC2603-F 8-729-606-33 s 2SC2603-F
Q107	8-729-603-30	s 2SC403SP-3		Q251	8-729-606-33 s 2SC2603-F
Q108 Q109	8-729-603-30	s 2SA1027R		Q252	8-729-606-33 s 2SC2603-F
	8-729-612-77	s 2SA1027R		Q233	0 72 7000 33 8 2002003 1
Q110	0. 129 014-11			Q254	8-729-606-33 s 2SC2603-F
Q111	8-729-603-30	s 2SC403SP-3		Q255	8-729-606-33 s 2SC2603-F
Q112	8-729-603-30	s 2SC403SP-3		Q256	8-729-606-33 s 2SC2603-F
Q201	8-729-612-77	s 2SA1027R		Q257	8-729-606-33 s 2SC2603-F
Q201	8-729-606-33	s 2SC2603-F		Q258	8-729-606-33 s 2SC2603-F
Q203	8-729-606-33	s 2SC2603-F			
4200	,			Q259	8-729-606-33 s 2SC2603-F
Q204	8-729-606-33	s 2SC2603-F		Q260	8-729-606-33 s 2SC2603-F
Q205	8-729-606-33	s 2SC2603-F		Q261	8-729-612-77 s 2SA1027R
Q206	8-729-606-33	s 2SC2603-F		Q262	8-729-612-77 s 2SA1027R
Q207	8-729-606-33	s 2SC2603-F		Q263	8-729-606-33 s 2SC2603-F
Q208	8-729-606-33	s 2SC2603-F			
				Q264	8-729-612-77 s 2SA1027R
Q209	8-729-612-77	s 2SA1027R		Q265	8-729-612-77 s 2SA1027R
Q210	8-729-606-33	s 2SC2603-F		Q267	8-729-606-33 s 2SC2603-F
Q211	8-729-606-33	s 2SC2603~F		Q268	8-729-178-72 s 2SC2787-L
Q212	8-729-612-77	s 2SA1027R		Q269	8-729-606-33 s 2SC2603-F
Q213	8-729-178-72	s 2SC2787L			

Serial No. 10501 and higher



Ref.No	. Parts No. SP	Description	Ref.No	. Parts No. SP	Description
Q270	8-729-606-33 s		PR-40 A	BOARD	
Q271 Q272		2SC2603-F 2SC2603-F		A-6257-137-A o	MOUNTED CIRCUIT BOARD, PR-40A
Q273	8-729-612-77 s	2SA1027R			
Q274	8-729-612-77 s	2SA1027R			
Q275	8-729-178-72 s 8-729-178-72 s	2SC2787-L 2SC2787-L	C110 C116		TANTALUM 33 10% 16V DIP MICA 180PF 5% 100V
Q276 Q277		2SC2787-L	C121		SILVERED MICA 6.8PF 0.5PF 500V
Q278	8-729-178-72 s 8-729-178-72 s	2SC2787-L 2SC2787-L	C125 C127	1-131-374-00 s 1-109-768-00 s	TANTALUM 33 10% 16V DIP MICA 139PF 1% 100V
Q279					222 MICH 6232 O EDT 1008
Q280 Q281	8-729-178-72 s 8-729-606-32 s		C128 C129		DIP MICA 23PF 0.5PF 100V DIP MICA 185PF 1% 100V
Q282	8-729-612-77 B		C130	1-109-758-00 s	DIP MICA 83PF 1% 100V
Q283	8-729-105-72 s	29K523-L1	C131 C132	1-109-793-00 = 1-109-756-00 =	DIP MICA 256PF 1% 100V DIP MICA 76PF 1% 100V
2055	1-247-883-00 s	CARBON 150K 5% I/6W	C133		DIP MICA 66PF 1% 100V
R255 R267	1-247-903-00 s	The same of the sa	C134		DIP MICA 85PF 1% 100V
R473	1-247-881-00 s		C135		DIP MICA 1223PF 1% 100V
R474 R481	1-247-903-00 s 1-247-819-00 s	and the same of th	C136 C137		DIP MICA 92PF 1% 100V DIP MICA 445PF 1% 100V
		14			
R482	1-247-819-00 s	CARBON 330 5% 1/6W	C138 C139		DIP MICA 21PF 0.5PF 100V DIP MICA 359PF 1% 100V
		•	C140		DIP MICA 79PF 1% 100V
201	1-224-937-00 s	CERMET 1K	C141 C142		DIP MICA 166PF 1% 100V DIP MICA 79PF 1% 100V
RV1 RV2	1-224-937-00 s		6142	1-109-737-00 8	DIF RICK / FFF 1% 100V
RV3	1-224-937-00 s		C143		DIP MICA 510PF 5% 100V
RV4 RV101	1-224-941-00 s 1-224-937-00 s		C146 C147	1-109-535-00 a 1-131-345-00 a	
		ONE TRACES	C150	1-109-547-00	DIP MICA 330PF 5% 100V
	1-224-936-00 s 1-224-943-00 s		C155	1-131-349-00 s	TANTALUM 2.2 10% 35V
RV104	1-224-943-00 s	CERMET 100K	C156	1-109-531-00 s	
	1-224-938-00 s 1-224-937-00 s		C160 C162	1-109-535-00 s 1-109-553-00 s	
KVIOO			C165	1-109-553-00 s 1-109-531-00 s	
RV107			C171	1-131-373-00	
RV108 RV201			C172	1-131-373-00	TANTALUM 22 10% 16V
	1-224-940-00 s 1-224-939-00 s		C173	1-131-359-00 a	TANTALUM 10 10% 25V
RV203	1-224-939-00 s	GERRET JA	C174 C188	1-131-359-00 s 1-131-359-00 s	
RV204			C189	1-131-359-00	
RV205 RV206			C191	1-131-349-00 s	TANTALUM 2.2 10% 35V
RV207	1-224-978-00 B		C194		DIP MICA 75PF 5% 100V
RV208	1-224-939-00 s	CERMET 5K	C201	1-107-211-00	
RV209			C204 C218	1-109-530-00 s 1-107-211-00 s	
RV210 RV211					
	1-224-937-00 s	CERMET 1K	C226 C228	1-131-373-00 s 1-131-351-00 s	
	1-224-937-00 s	CERMET 1K	C229	1-131-351-00 s	
RV214	1-228-456-00 s	CERMET 1K	C231 C233		DIP MICA 47PF 5% 100V SILVERED MICA 24PF 5% 500V
	S/N. 10501 to	10800			
	1-224-937-00 s S/N. 10801 ar	nd higher	C234		DIP MICA 120PF 5% 100V TANTALUM 22 10% 16V
	1-224-937-00 s	CERMET 1K	C238 C240		SILVERED MICA 24PF 5% 500V
RV216	1-224-937-00 s 1-224-978-00 s	CERMET IK METAL FILM 50	C252		TANTALUM 4.7 10% 35V
4(121/	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		C253	1-131-351-00 s	TANTALUM 4.7 10% 35V
			C507		SILVERED MICA 5.1PF 0.5PF 500V
S101	1-554-010-00	TOGGLE "C-ENH ON/OFF"	C510 C511		TANTALUM 2.2 10% 35V TANTALUM 2.2 10% 35V
	1-554-010-00 a 1-552-509-00 a	TOGGLE "C-NR ON/OFF" DIP "BEAT CANCELLER ON/OFF"	C513	1-161-894-00 s	CERAMIC 0.1 +80% -20% 50V
S202	7-774-303-00 B	WAS AND WASTERMAN WATER OF A	C514	1-107-077-00 s	SILVERED MICA 47PF 5% 50V
	1-800-200-00 8				
TH203	1-800-198-XX = 1-800-200-00	S S-1K			
TH204	1-800-200-00	AC-0 1			
X201	1-527-861-00 s	30MHz			
45.LU A					

Serial No. 10001 and higher

Ref.No	. Parts No.	SP	Description	Ref.No.	Parts No. S	P	Description
			DIP MICA 120PF 5% 100V DIP MICA 75PF 5% 100V DIP MICA 900PF 1% 100V DIP MICA 63PF 1% 100V DIP MICA 70PF 1% 100V	D101	8-719-116-07	_	PD16F-R
C516	1-109-537-00	8	DIP MICA 120PF 5% 100V	D101	8-719-815-55	8	181555
C517	1-109-532-00	В	DIP MICA 900PF 1% 100V	D103	8-719-815-55	s	181555
C520	1-109-797-00	8	DIP MICA 63PF 17 100V	D104	8-719-815-55	Б	181555
C521	1-109-700-00		DIP MICA 70PF 17 100V	D105	8-719-815-55	8	181555
C522	1-109-788-00	ь	pir nica /oil in ion				
05.22	1-109-789-00	6	DIP MICA 82PF 1% 100V	D106	8-719-101-97		
C523 C524	1-109-794-00	8	DIP MICA 275PF 1% 100V	D107	8-719-101-97		
C525	1-109-790-00	s	DIP MICA 90PF 1% 100V	D108	8-719-815-55		
C526	1-109-792-00	8	DIP MICA 199PF 1% 100V	D109	8-719-815-55		
C527	1-109-746-00	8	DIP MICA 82PF 1% 100V DIP MICA 275PF 1% 100V DIP MICA 90PF 1% 100V DIP MICA 199PF 1% 100V DIP MICA 25PF 0.5PF 100V	D110	8-719-815-55	8	181555
					0 710 015 55	_	101655
C528	1-109-791-00	8	DIP MICA 150PF 1% 100V	Dili	8-719-815-55 8-719-815-55		
C534	1-131-349-00	8	TANTALUM 2.2 10% 35V	D112	8-719-815-55		
C535	1-131-349-00	8	TANTALUM 2.2 10% 35V	D117	8-719-815-87		
C537	1-109-537-00	В	DIP MICA 120PF 5% 100V	D114	8-719-102-52		
C548	1-107-211-00	8	DIP MICA 150PF 1% 100V TANTALUM 2.2 10% 35V TANTALUM 2.2 10% 35V DIP MICA 120PF 5% 100V SILVERED MICA 24PF 5% 500V	DILJ			
		_	DIP MICA 122PF 1% 100V DIP MICA 17PF 0.5PF 100V DIP MICA 314PF 1% 100V DIP MICA 74PF 1% 100V DIP MICA 283PF 1% 100V	D116	8-719-908-10		QSCH-1754
C549	1-109-764-00	8	DIP MICA 17PF 0.5PF 100V	D117	8-719-908-10		QSCH-1754
C550	1-109-743-00	8	DIP MICA 314PF 1% 100V	D118	8-719-908-10	8	QSCH-1754
C552 C553	1-109-775-00	8	DIP MICA 74PF 1% 100V	D119	8-719-908-10	8	QSCH-1754
C554	1-109-772-00	Б	DIP MICA 283PF 1% 100V	D120	8-719-815-87	8	1S1587
0004	1 100						1251
C555	1-109-754-00	6	DIP MICA 65PF 1% 100V	DIZI	8-719-908-10	8	QSCH-1754
C557	1-109-780-00	8	DIP MICA 660PF 1Z 100V	D122	8-719-908-10	8	QSCH-1754
C558	1-109-762-00	8	DIP MICA 104PF 17 100V	D123	8-719-908-10	5	QSCH-1754
C559	1-109-784-00	8	DIP MICA 1408PF 1% 100V	D124	8_719_815_87	8	151587
C560	1-109-761-00	В	DIP MICA 65PF 1% 100V DIP MICA 660PF 1% 100V DIP MICA 104PF 1% 100V DIP MICA 1408PF 1% 100V DIP MICA 92PF 1% 100V	DIZJ	. 0-719-013-07		151501
			DIP MICA 83PF 1% 100V DIP MICA 480PF 1% 100V DIP MICA 55PF 1% 100V SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V	D1 26	8-719-815-87	9	181587
C561	1-109-/58-00	8	DID MICH OSEL 1% 100A	D127	8-719-815-87	6	181587
C562	1-109-779-00	, B	DIP MICA 55PF 1% 100V	D501	8-719-815-87	S	1S1587
C563 C566	1-107-211-00	1 9	STIVERED MICA 24PF 5% 500V	D502	8-719-151-07	8	RD5.1E-B
C567	1-107-211-00) s	SILVERED MICA 24PF 5% 500V	D503	8-719-815-55	8	lS1555
0507							
C568	1-107-211-00) =	SILVERED MICA 24PF 5% 500V				
C569	1-107-211-00) s	SILVERED MICA 24PF 5% 500V				000
C570	1-107-211-00) s	SILVERED MICA 24PF 5% 500V	DĻl	1-415-395-11	\$	900nsec
C571	1-107-211-00) в	SILVERED MICA 24PF 5% 500V				
C572	1-107-211-00) s	SILVERED MICA 24PF 5% 500V				
			OTT UPPER NICE SARE EX COOK	ERI	1-535-178-00	s	
C573	1-107-211-00		SILVERED MICA 24FF 36 30UY	FB2	1-535-178-00	_	
C574	1-107-211-00		TANTALIN 2 2 107 35V	FB3	1-535-178-00		
C579	1-131-349-00		TANTALIM 2.2 10% 35V	FB4	1-535-178-00		
C580	1-131-349-00	, ,	DIP MICA 47PF 5Z 100V	FB5	1-535-178-00	s	
C581							
C590	1-107-211-00) s	SILVERED MICA 24PF 5% 500V	FB6	1-535-178-00	s	
C591	1-107-211-00) s	SILVERED MICA 24PF 5% 500V	FB7	1-535-178-00	s	
C592	1-107-211-0) s	SILVERED MICA 24PF 5% 500V	FB8	1-535-178-00	8	
C593	1-107-211-0) s	SILVERED MICA 24PF 5% 500V	FB101	1-535-178-00	8	
C594	1-107-211-0	0 ε	SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V	FB102	1-030-1/8-00	8	
						g	
C595	1-107-211-0	D 8	SILVERED MICA 24PF 5% 500V	FDIOA	1-535-178-00	8	
C596	1-107-211-0	0 6	SILVERED MICA 24PF 5% 500V	FR105	1-535-178-00	s	
C597	1-107-211-0	Ų E	S SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V SILVERED MICA 24PF 5% 500V DIP MICA 300PF 5% 100V	FB106	1-535-178-00	8	
C604	1-107-211-0	U E	S DILVEKED MICH 24FF 36 JULY	FB501	1-535-178-00		
C609							
0011	1_107_069-0	n -	SILVERED MICA 6.8PF 0.5PF 500V	FB502	1-535-178-00	8	
C611 C612	1-107-040-0	0 4	DIP MICA 120PF 5% 100V				
C614	1-107-210-0	0 1	SILVERED MICA 22PF 5% 500V				
0014	1-10/ 210 0	•					

CP501 1-235-206-00 s CR BLOCK

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Ref. No. Parts No. SP Description
Ref.No. Parts No. SP Description
                                                                           IC526 8-759-900-04 s SN74LS04N(T1)
        8-759-132-40 s uPC324C(NEC)
TCI
                                                                           IC527 8-759-903-74 a
                                                                                                      SN74LS374N(TI)
IC101 8-749-936-51 s
                            BX365A(SONY)
                                                                           IC528 8-759-902-21 s SN74LS221N(TI)
IC102 8-759-200-60
                        8 TA7060AP(TOSHIBA)
                                                                           IC529
                                                                                   8-759-000-05
                                                                                                  8 MC1496G(MOTOROLA)
                        s SN74LSOON(TI)
        8-759-900-00
TC103
                            uPC324C(NEC)
                                                                           IC530 8-759-000-05 8 MC1496G(MOTOROLA)
IC104
        8-759-132-40
                                                                           IC531 8-749-936-51 s BX365A(SONY)
        8-759-974-06 s SN7406N(TI)
TC105
        8-759-901-23 s
                            SN74LS123N(TI)
IC106
                         s SN74LS191N(TI)
TC107
        8-759-901-91
8-759-103-19
                        s uPC319C(NEC)
IC108
        8-759-900-11 s SN74LS11N(TI)
                                                                           Ll
                                                                                   1-421-329-00 s CHOKE
IC109
                                                                                   1-421-329-00
                                                                                                      CHOKE
                                                                           L2
                                                                                                  8
                                                                                   1-421-329-00
IC110
        8-759-901-23 s SN74LS123N(TI)
                                                                                                      CHOKE
        8-759-990-82 s TL082CP(TI)
8-759-900-59 s HII-0201-5(HARRIS)
                                                                           1.4
                                                                                   1-421-329-00
                                                                                                      CHOKE
IC111
                                                                           L104
                                                                                   1-408-868-00
                                                                                                      FIXED 15.3uH
IC112
                                                                                                   8
         [EK; S/N 10001 to 16300]
        8-759-504-61 s ADG201AKN [EK; S/N 16301 and higher]
TC112
                                                                           1.105
                                                                                   1-408-869-00
                                                                                                       FIXED 15.7mH
                                                                                   1-408-637-00
                                                                           L106
                                                                                                      FIXED 13uH
                                                                                                  8
IC113 8-759-900-58 s HA1-4905(HARRIS)
IC114 8-759-990-82 s TL082CP(TI)
                                                                                   1-408-875-00
                                                                           L107
                                                                                                       FIXED 110uH
                                                                           1.108
                                                                                   1-408-865-00
                                                                                                       FIXED 8.79uH
                                                                                   1-408-866-00
                                                                           L109
                                                                                                  8
                                                                                                      FIXED 9.23uH
IC115 8-759-103-19 s uPC319C(NEC)
IC116 8-749-936-51 s BX365A(SONY)
                                                                                   1-408-872-00
                                                                           T.110
                                                                                                       FIXED AOUR
IC117
        8-759-990-82 s TL082CP(TI)
                                                                                   1-408-635-00
                                                                                                       FIXED 12.4uH
                                                                           L111
                                                                                                   8
        8-749-936-51 s BX365A(SONY)
8-759-990-82 s TL082CP(TI)
TC118
                                                                                   1-408-635-00
                                                                                                       FIXED 12.4uH
IC119
                                                                           1.113
                                                                                   1-408-650-00
                                                                                                       FIXED 32.3uH
                                                                                   1-408-628-00
                                                                           L114
                                                                                                       FIXED 2.72uH
                                                                                                   8
IC120 8-759-145-57
                        s uPC4557C(NEC)
        8-752-005-21 s
                             CX20052(SONY)
                                                                           1.116
                                                                                   1-408-863-00
                                                                                                       FIXED 6.57mH
IC122 8-759-990-82 s TL082CP(TI)
IC123 8-759-906-01 s TL601CP(TI)
                                                                                   1-408-874-00
                                                                                                       FIXED 81uH
                                                                           L501
                                                                                                   8
                                                                                                      FIXED 14uH
FIXED 16.9uH
                                                                           1.502
                                                                                   1-408-867-00
IC124
        8-752-005-21 s CX20052(SONY)
                                                                                   1-408-871-00
                                                                           L503
                                                                                                   R
                                                                           L504
                                                                                   1-408-870-00
                                                                                                       FIXED 16.4uH
                        s HD10125(HITACHI)
TC125
        8-759-300-25
IC126 8-759-300-25 s HD10125(H1TACHI)
IC126 8-759-902-21 s HD10125(H1TACHI)
IC128 8-759-900-02 s SN74LS221N(TI)
IC129 8-759-900-74 s SN74LS74AN(TI)
                                                                           1.505
                                                                                   1-408-864-00 s
                                                                                                       FIXED 6.82uH
                                                                                   1-408-627-00
                                                                           L506
                                                                                                       FIXED 2.49uH
                                                                                                   8
                                                                           L507
                                                                                   1-408-626-00
                                                                                                       FIXED 2.28uH
                                                                                                       FIXED 14.8uH
                                                                                   1-408-648-00
                                                                           1.508
                                                                                                   8
                                                                           L509
                                                                                   1-408-649-00
                                                                                                       FIXED 31.7uH
                                                                                                   6
                        s HD10125(HITACHI)
s HD10125(HITACHI)
        8-759-300-25
8-759-300-25
TC130
IC131
                                                                           1,510
                                                                                   1-408-631-00 s
                                                                                                       FIXED 6.3nH
         8-759-910-04 s SN74SO4N(TI)
                                                                                   1-408-632-00
                                                                           L511
                                                                                                       FIXED 6.36uH
        8-759-900-04 s SN74LS04N(TI)
8-759-900-59 s HII-0201-5(HARRIS)
                                                                                                   s
TC133
                                                                                                      FIXED 5.03uH
FIXED 1.25uH
                                                                           T.517
                                                                                   1-408-629-00
IC134
                                                                           L513
                                                                                   1-408-624-00
        [EK; S/N 10001 to 16300]
8-759-504-61 s ADG201AKN
[EK; S/N 16301 and higher]
                                                                                                   8
                                                                                   1-408-633-00
IC134
IC501 8-749-936-51 8 BX365A(SONY)
IC502 8-759-145-57 8 uPC4557C(NEC
IC503 8-749-936-51 8 BX365A(SONY)
                                                                                   8-729-612-77 s 2SA1027R
8-729-612-77 s 2SA1027R
                                                                           0101
                            uPC4557C(NEC)
                                                                           0102
                                                                           Q103
                                                                                   8-729-672-44
                                                                                                       2SC2724-E
                                                                                                   8
 10504 8-752-005-11
                             CX20051(SONY)
                                                                                                   s 2SC2724-E
                                                                           Q104
                                                                                   8-729-672-44
 IC505 8-759-931-02 s CA3102E(RCA)
                                                                           0105
                                                                                   8-729-672-44 s 2SC2724-E
                             uPC4557C(NEC)
IC506 8-759-145-57
                                                                           0106
                                                                                   8-729-612-77
                                                                                                       2SA1027R
IC507 8-759-145-57
IC508 8-759-990-82
                         8
                            uPC4557C(NEC)
                                                                                   8-729-612-77
                                                                           0107
                                                                                                   s 2SA1027R
                            TL082CP(TI)
                        8
                                                                           Q108
                                                                                   8-729-672-44
                                                                                                   s 2SC2724-E
        8-759-906-01
                            TL601CP(TI)
 IC509
                                                                           0109
                                                                                   8-729-672-44
                                                                                                   s 2SC2724-E
 IC510 8-759-990-82 # TL082CP(TI)
                                                                                   8-729-672-44
                                                                                                   s 2SC2724-E
                                                                           0110
 IC511 8-749-936-51 m BX365A(SONY)
                                                                           0111
                                                                                   8-729-672-44
                                                                                                   s 2SC2724-E
 IC512 8-752-005-11 s
                             CX20051(SONY)
                                                                                   8-729-672-44
                                                                                                   s 2SC2724-E
                                                                           Q112
                            TL082CP(TI)
 IC513 8-759-990-82 B
                                                                           Q113
                                                                                   8-769-193-06
                                                                                                   s 2SK43-3R
 IC514 8-759-906-01 s
                             TL601CP(TI)
                                                                                                   s 2SK43-3R
s 2SA1027R
                                                                           0114
                                                                                   8-769-193-06
                        8
                             SN74LS273N(TI)
 IC515 8-759-902-73
                                                                                   8-729-612-77
                                                                           0115
 IC516 8-759-900-04 s SN74LS04N(TI)
                                                                           0116
                                                                                   8-729-672-44 s 2SC2724-E
 IC517 8-759-145-57 s
                             uPC4557C(NEC)
                                                                                   8-729-672-44
                                                                           0117
                                                                                                  в 2SC2724-E
 IC518 8-759-989-69 s
                             SN74LS86AN(TI)
                                                                                   8-729-672-44
                                                                                                  s 2SC2724-E
                                                                           0118
         8-759-906-70 s
                             SN74LS670N(TI)
 IC519
                                                                                                  s 2SC1636
                                                                                   8-761-622-00
 IC520 8-759-901-63 s SN74LS163AN(TI)
                                                                           Q119
                                                                           0120
                                                                                   8-761-622-00 s 25C1636
                             SN74LS273N(TI)
 IC521 8-759-902-73 s
 IC522 8-759-001-16 s HD10116(HTTACHI)
IC523 8-759-906-70 s SN74LS670N(TI)
IC524 8-759-901-63 s SN74LS163AN(TI)
 IC525 8-759-902-40 E SN74LS240N(TI)
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Ref.No. Parts No. SP Description
Ref.No. Parts No. SP Description
                                                                          RB504 1-231-521-00 m
                                                                                                    3.3K x 4
Q121
        8-729-612-77 s 2SA1027R
                                                                          RB505 1-231-450-00 s 3.K x 8
RB506 1-231-504-00 s 620 x 4
                          2SA1027R
Q1 22
        8-729-612-77 R
        8-729-672-44 s
                           2SC2724-E
0123
                                                                          RB507
                                                                                 1-235-128-00 s 1.5K x 8
        8-729-368-90
                           2SC689H
0124
                                                                          RB508 1-231-450-00 # 3.K x 8
Q125
        8-729-672-44 B 2SC2724-E
                            2SC689H
        8-729-368-90 B
0126
Q127
        8-729-672-44 B 2SC2724-E
                                                                                  1-230-738-21 s CARBON 200
                                                                          RV1
                            2SK43-3R
        8-769-193-06 5
Q128
                                                                          RV2
                                                                                  1-230-740-21 s CARBON 5K
        8-769-193-06
                            2SK 43-3R
0129
                                                                                  1-230-740-21 # CARBON 5K
                                                                          DV3
Q130
        8-729-368-90 s 2SC689H
                                                                                  1-230-740-21 8
                                                                                                     CARBON
                                                                          RV4
                                                                                  1-230-740-21 s
                                                                                                     CARBON 5K
         8-729-353-03 s 2SA530H-C
0131
        8-729-368-90 s 2SC689H
8-729-368-90 s 2SC689H
Q132
                                                                                                     CERMET 1K
                                                                          RV101 1-224-937-00 s
 0133
                                                                          RV102
                                                                                 1-224-936-00 s
                                                                                                     CERMET 500
         8-729-113-32
                            2SB733-3
 0134
                                                                                 1-224-937-00 a
                                                                                                     CERMET 1K
                                                                          RV104
 Q135
         8-729-368-90 s 2SC689H
                                                                                                     CERMET 5K
                                                                                  1-224-939-00
                                                                          RV105
                                                                          RV106
                                                                                 1-224-941-00
                                                                                                 s CERMET 20K
         8-729-353-03 s 2SA530H-C
 0136
 Q137
         8-729-368-90 s 2SC689H
                                                                          RV107
                                                                                                     CERMET 2K
                                                                                  1-224-938-00
         8-769-193-06 s 2SK43-3R
 Q138
                                                                          RV108
                                                                                 1-224-937-00 s CERMET 1K
         8-769-193-06
                            2SK43-3R
 0139
                                                                                 1-224-941-00 s CERMET 20K
                                                                          RV109
 Q140
         8-729-368-90
                        s 2SC689H
                                                                                  1-224-937-00
                                                                                                     CERMET 1K
                                                                          RV501 1-224-941-00
                                                                                                 s CERMET 20K
         8-761-622-00
                            2SC1636
 0501
                        s 2SC2724-E
                                                                                 1-224-937-00 s CERMET 1K
1-224-941-00 s CERMET 20K
 Q502
         8-729-672-44
                                                                          RV503
                        s 2SC689H
         8-729-368-90
 0503
                                                                          RV504
         8-729-612-77
                            25A1027R
 Q504
                                                                          RV505 1-224-941-00 & CERMET 20K
                        s 2SA995-F
 Q505
         8-729-699-51
                                                                                                  ■ CERMET 20K
                                                                                  1-224-941-00
                                                                          RV506
                                                                          RV508 1-224-941-00 # CERMET 20K
         8-765-300-00 s 2SC2009
 Q506
                        ■ 2SC1636
         8-761-622-00
 Q507
                                                                          RV509 1-224-941-00 # CERMET 20K
                        s 2SC689H
         8-729-368-90
 Q510
 Q511
          8-729-612-77
                         s 2SA1027R
                         s 2SK43-3R
         8-769-193-06
 0512
                                                                                  1-554-010-00 s TOGGLE "COMP/DUB"

1-554-010-00 s TOGGLE "CHROMA LEVEL"

1-554-010-00 s TOGGLE "BLACK LEVEL"

1-554-010-00 s TOGGLE "VIDEO LEVEL"
                                                                          Sl
                        в 2SA1027R
 Q513
         8-729-612-77
                                                                          S2
         8-729-368-90
                             2SC689H
                        8
 0515
                         ■ 2SA1027R
                                                                           S3
         8-729-612-77
 Q516
                                                                           54
          8-761-622-00
                         s 2SC1636
 Q517
                                                                                  1-554-010-00 s TOGGLE "Y/C DELAY"
                                                                          S5
         8-729-672-44 s 2SC2724-E
 Q518
                                                                                  1-570-281-11 s DIP "REMOTE"
1-552-509-00 s DIP "DUB MODE RELEASE"
                                                                           26
         8-729-672-44 s 2SC2724-E
 0519
                                                                           S101
         1-247-903-00 s CARBON 1M 5% 1/6W
  R173
                                                                           T101 1-446-330-00 s PULSE
T102 1-446-330-00 s PULSE
                             CARBON 750K 5% 1/6W
          1-247-900-00 s
 R200
                             CARBON 750K 5% 1/6W
CARBON 820K 5% 1/6W
  R202
         1-247-900-00
  R219
          1-247-901-00
                         8
         1-247-895-00 s CARBON 470K 5% 1/6W
  R315
                                                                           VCO501 1-567-070-00 s 10.8750MHz
                             CARRON 470K 5% 1/6W
  R532
         1-247-895-00
         1-247-901-00 s CARBON 820K 5% 1/6W
  R549
         1-247-900-00 s CARBON 750K 5% 1/6W
1-247-900-00 s CARBON 750K 5% 1/6W
                             CARBON 750K 5% 1/6W
  R566
         1-235-130-00 s 680K x 4
  RB1
  RB1 1-235-130-00 s 680K x 4

RB101 1-231-521-00 s 3.3K x 4

RB102 1-231-509-00 s 1K x 4

RB103 1-231-509-00 s 1K x 4

RB104 1-231-509-00 s 1K x 4
  RB105 1-231-509-00 s 1K x 4
```

s 3.3K x 4

в 1.5K ж 8

1-231-521-00

1-235-128-00

RB503 1-231-450-00 s 3.K x 8

1-231-450-00 s 3.K x 8

RB106

RB501

RB502

Ref.No. Parts No. SP Description Ref.No. Parts No. SP Description RD12E-B 8-719-112-01 s D12 PW-91A BOARD A-6263-042-A o MOUNTED CIRCUIT BOARD, PW-91A 1S2348H 8-719-923-48 D13 8-719-923-48 s 1S2348H D14 8-719-930-12 s RD12E-B D15 8-719-200-02 s 10E-2 D16 D17 8-719-924-06 s ERC24-04S 1-535-324-00 o TERMINAL, FASTEN 8-719-924-06 s ERC24-04S 8-719-901-18 s ESAD83-004 D18 ESAD83-004 D51 8-719-912-50 ESAC25-02N C1 1-136-212-12 s FILM 0.1 20% 250V C2 1-136-210-00 s FILM 0.01 20% 250V C3 1-130-854-00 s FILM 0.0022 20% 250V C4 1-130-854-00 s FILM 0.0022 20% 250V C5 1-130-854-00 s FILM 0.0022 20% 250V D53 8-719-912-52 B ESAC25-02C \triangle 8-719-912-50 s ESAC25-02N D54 8-719-102-52 s 1SZ52 D71 8-719-139-07 s RD3.9E-B D72 181555 8-719-815-55 D73 8-719-815-55 s 1S1555 D74 1-130-854-00 s FILM 0.0022 20% 250V C6 1-125-282-00 s ELECT 470 20% 200V 1-125-282-00 s ELECT 470 20% 200V 1-123-981-00 s ELECT 4.7 20% 450V 1-123-984-00 s ELECT 4.7 20% 250V D91 8-719-815-55 s 1S1555 **C**7 8-719-815-55 s 1S1555 D92 C8 8-719-139-07 s RD3.9E-B D93 C9 D111 8-719-815-55 s 1S1555 C10 8-719-139-07 s RD3.9E-B D112 ELECT 4.7 20% 250V CERAMIC 470PF 10% 400V 1-123-984-00 в 8-719-815-55 s C11 D113 181555 C12 1-161-740-00 B 8-719-139-07 s RD3.9E-B TANTALUM 3.3 10% 25V D131 1-131-356-00 s 1S1555 C14 8-719-815-55 D132 1-131-356-00 181555 C16 8-719-815-55 s 1S155 8-719-102-52 s 1SZ52 D133 1-106-184-00 s MYLAR 0.0033 5% 50V C17 D134 1-123-982-00 s ELECT 3.3 20% 63V C18 MYLAR 0.01 5% 50V MYLAR 0.01 5% 50V C51 1-108-579-00 s 1-108-579-00 s IC71 8-759-132-40 s uPC324C(NEC)
IC111 8-759-132-40 s uPC324C(NEC) C52 1-108-579-00 MYLAR 0.01 5% 50V C53 1-108-579-00 s MYLAR 0.01 5% 50V 1-123-824-00 = ELECT 220 20% 25V C55 1-421-329-00 s 10uH 1-421-329-00 s 10uH C56 Δ Ll C57 L2 1-123-824-00 ELECT 220 20% 25V C58 1-123-824-00 s ELECT 220 20% 25V C59 1.3 1-408-654-00 s 1 mH L51 1-413-089-00 1-123-824-00 s ELECT 220 20% 25V C60 L52 1-413-090-00 s 110uH 1-123-824-00 s ELECT 220 20% 25V 1-123-824-00 s ELECT 220 20% 25V C61 1-413-090-00 s C62 L53 110uH 1-123-824-00 ELECT 220 20% 25V C63 L54 1-413-091-00 s 100mH 1-107-082-00 s SILVERD MICA 75PF 5% 50V 1-421-329-00 s L55 10uH C71 1-421-459-00 5.6uH L56 1-107-082-00 s SILVERD MICA 75PF 5% 50V C91 1.57 1-421-329-00 s 10uH 1-107-082-00 s SILVERD MICA 75PF 5% 50V 1-107-082-00 s SILVERD MICA 75PF 5% 50V C111 1-421-329-00 s 10uH 1-421-329-00 s 10uH L58 1.59 1-560-176-00 o RECEPTACLE, 2P 1-560-723-00 o RECEPTACLE, 3P 1-508-904-00 s CONNECTOR(M) 6P ⚠ CN1 8-729-133-53 s 2SC2335-K CN2 01 8-729-962-52 s 2SC2625-B CN3 8-729-962-52 s 2SC2625-B 8-729-900-07 s 2SB757-B 03 1-509-705-00 o HOUSING.5P 071 CN4 8-729-177-32 s 2SD773-5 1-535-100-00 o CONTACT Q72 1-509-585-00 o HOUSING, 4P CN5 Q73 8-723-303-20 s 2SK43-3A 1-535-100-00 o CONTACT 8-729-900-07 s 2SB757-B 8-729-177-32 s 2SD773-5 Q91 Q92 8-729-984-70 s 2SD847 s 2SB733-5 0111 8-729-113-34 8-719-902-17 s U15G Q112 D1 8-719-902-17 s U15G D2 8-729-984-70 s 2SD847 8-729-113-34 s 2SB733-5 8-719-902-17 s U15G 0131 D3 0132 8-719-902-17 s U15G 8-723-303-20 s 2SK43-3A 8-719-815-55 Q133 DS 8-719-200-02 s 10E-2 8-719-115-07 s RD15E-B D7 8-719-901-17 g VIIL R1 1-205-739-00 s CEMENT 8.2 10% 5W D8 8-719-901-17 s V11L **D9** 1-217-623-00 s FUSE 3K 5% 2W 8-719-923-48 s 1S2348H **∕** R2 DIO

4

8-719-923-48 s 1S2348H

D11

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Ref.No. Parts No. SP Description
    Ref.No. Parts No. SP Description
                                CARBON 33K 5% 1/2W
METAL FILM 150 5% 3W
                                                                               SG-21 BOARD
               -247-765-11 s
     R5
     R7
             1-215-242-00
                                CARBON 20 5% 1/4W
                                                                                      A-6259-271-A o MOUNTED CIRCUIT BOARD, SG-21
             1-247-090-00
     R8
                                METAL PLATE 0.1 10% 2W
             1-217-621-00
     R 9
                                METAL FILM 33 1Z 1/2W
             1-212-497-00
     R11
                                CARBON 20 5% 1/4W
                                                                               BP200 1-235-465-11 s BPF
             1-247-090-00
     R12
                                                                               BP201 1-235-207-00 s
                                METAL FILM 33 1% 1/2W
             1-212-497-00
                                                                                                          BPF
     R13
                                METAL FILM 110K 1% 1/2W
                                                                                      1-235-202-00
                                                                                                          BPF
                                                                               BP202
     R15
             1-212-703-00 s
                                                                                                     6
                                METAL FILM 110K 1% 1/2W
                                                                                       1-235-466-11
             1-212-703-00
                                                                               BP500
                                                                                                          BPF
     R16
             1-212-703-00
                                METAL FILM 110K 1% 1/2W
                                                                               BP501
                                                                                       1-235-466-11
                                                                                                          RPF
     R17
                                                                               BP502 1-235-168-00 s BPF
             1-212-703-00
     218
                                CARBON 200K 5% 1/2W
CARBON 200K 5% 1/2W
             1-224-928-00
     R19
             1-224-928-00
     R20
                                METAL FILM 36 1% 1/2W
             1-212-498-00
     R21
                                                                                       1-161-897-00 s CERAMIC 0.33 +80% -20% 50V 1-107-206-00 s SILVERED MICA 15PF 5% 500V
                                METAL FILM 36 1% 1/2W
                                                                               C9
             1-212-498-00
     R22
                                                                               C10
                                                                                                          SILVERED MICA 68PF 5% 50V
SILVERED MICA 27PF 5% 500V
TANTALUM 2.2 10% 25V
                                 CARBON 10 5% 1/4W
                                                                               C11
                                                                                       1-107-081-00
             1-247-083-00
      R51
                                 CARBON 10 5% 1/4W
                                                                               C28
                                                                                       1-107-157-00
             1-247-083-00 s
      R52
                                                                                       1-131-355-00
                                 CARBON 10 5% 1/4W
              1-247-083-00
                                                                               C32
      R53
                                CARBON 10 5% 1/4W
      R54
              1-247-083-00
                                                                               C33
                                                                                       1-109-539-00 в
                                                                                                          DIP MICA 150PF 5% 100V
                                                                                                          SILVERED MICA 43FF 5% 50V
SILVERED MICA 15FF 5% 500V
TANTALUM 10 10% 25V
                                                                                       1-107-076-00
              1-207-679-00 s WIREWOUND 15 10% 5W
                                                                               C39
\Lambda
     R55
                                                                               C40
                                                                                       1-107-206-00
                                                                                       1-131-359-00
                                                                               C47
                                                                               C55
                                                                                       1-131-359-00
                                                                                                          TANTALUM 10 10% 25V
                                 METAL PLATE 0.1 10% 2W
              1-217-621-00 s
      R72
              1-217-621-00
                                 METAL PLATE 0.1 10% 2W
      R73
                                                                               C59
                                                                                       1-102-114-00
                                                                                                          CERAMIC 470PF 10% 50V
                                 CARBON 680 5% 1/4W
CARBON 270K 5% 1/6W
              1-247-127-00
      R74
                                                                               C67
                                                                                       1-107-085-00 s
                                                                                                          SILVERED MICA 100PF 5% 50V
      D 2 1
              1-247-889-00
                                                                                                          DIP MICA 560PF 5% 100V
SILVERED MICA 10PF 5% 500V
                                 METAL PLATE 0.1 10% 2W
                                                                               C68
                                                                                       1-109-555-00
1-107-202-00
              1-217-621-00
      R91
                                                                               C88
                                                                               C201
                                                                                       1-131-373-00
                                                                                                          TANTALUM 22 10% 16V
                                 CARBON 680 5% 1/4W
      002
              1-247-127-00
              1-247-887-00
                                 CARBON 220K 5% 1/6W
                              8
      R97
                                                                                       1-131-373-00
                                                                                                          TANTALUM 22 10% 16V
                                                                               C202
      R102
              1-247-889-00
                                 CARBON 270K 5% 1/6W
                                 METAL PLATE 0.1 10% 2W
                                                                               C214
                                                                                       1-131-373-00
                                                                                                      8
                                                                                                          TANTALUM 22 10% 16V
      R111
              1-217-621-00
                              8
                                 CARBON 680 5% 1/4W
                                                                               C215
                                                                                       1-107-079-00
                                                                                                          SILVERED MICA 56PF 5% 50V
              1-247-127-00
      R112
                                                                                                          TANTALUM 22 10% 16V
                                                                               C218
                                                                                       1-131-373-00
                                                                                                       6
                                                                                       1-109-768-00
                                                                                                          DIP MICA 139PF 1% 100V
                                 CARBON 270K 5% 1/6W
                                                                               C221
      R122
              1-247-889-00
                                 METAL PLATE 0.1 10% 2W
              1-217-621-00
      R131
                             s
              1-247-127-00
                                 CARBON 680 5% 1/4W
                                                                               C222
                                                                                       1-109-747-00 s DIP MICA 23PF 0.5PF 100V
      R132
                              s
                                 CARBON 220K 5% 1/6W
CARBON 270K 5% 1/6W
                                                                                       1-109-770-00
                                                                                                          DIP MICA 185PF 1% 100V
              1-247-887-00
                                                                               C223
                                                                                                      s
                                                                               C224
                                                                                       1-109-758-00
                                                                                                          DIP MICA 83PF 17 100V
              1-247-889-00
      R142
                             s
                                                                               C225
                                                                                       1-109-793-00
                                                                                                       s
                                                                                                          DIP MICA 256PF 1% 100V
                                                                                                          DIP MICA 76PF 1% 100V
                                                                                       1-109-576-00
                                                                               C226
                                                                                       1-109-787-00 ₪
                                                                                                          DIP MICA 66PF 1% 100V
DIP MICA 57PF 1% 100V
              1-224-936-00 B CERMET 500
                                                                               C227
      RV71
                                                                                       1-109-753-00
      RV72
              1-224-938-00 m
                                 CERMET 2K
                                                                               C228
                                                                                                      8
                                                                                       1-109-796-00
                                                                                                          DIP MICA 823PF 1% 100V
                             s CERMET 500
                                                                               C229
              1-224-936-00
      RV91
                                                                               C230
                                                                                       1-131-373-00
                                                                                                          TANTALUM 22 10% 16V
              1-224-938-00
                             E CERMET 2K
      RV92
                                                                                                          SILVERED MICA 22PF 5% 500V
              1-224-936-00
                              s CERMET 500
                                                                               C231
                                                                                       1-107-210-00
                                                                               C235
                                                                                       1-107-210-00 s
                                                                                                          SILVERED MICA 22PF 5% 500V
              1-224-936-00 s CERMET 500
      RV131
                                                                                                          TANTALUM 1 10% 35V
TANTALUM 22 10% 16V
              1-224-938-00 s CERMET 2K
                                                                               C240
                                                                                       1-131-347-00 #
                                                                               C242
                                                                                       1-131-373-00
      RV151
             1-224-938-00 s CERMET 2K
                                                                                       1-131-347-00
                                                                                                          TANTALUM 1 10% 35V
                                                                               C243
                                                                                                          CERAMIC 180PF 5% 50.V
                                                                               C244
                                                                                       1-102-658-00
                                                                                       1-107-083-00 s
                                                                                                          SILVERED MICA 82PF 5% 50V
\Lambda
                                                                               C245
      RY1
              1-515-451-21 8 8
                                                                                                          SILVERED MICA 22PF 5% 500V
SILVERED MICA 33PF 5% 500V
                                                                                       1-107-210-00
1-107-159-00
                                                                               C254
                                                                               C256
                                                                                                       8
                                                                                                          SILVERED MICA 68PF 5% 50V
                                                                                       1-107-081-00
                                                                               C258
                                                                                                       s
                                                                                                          SILVERED MICA 68PF 5% 50V
              1-554-058-21 s THERMAL REED
                                                                                       1-107-081-00
  \Lambda
      sw3
                                                                                                          DIP MICA 470PF 5% 100V
DIP MICA 470PF 5% 100V
                                                                                       1-109-553-00
                                                                               C260
                                                                                       1-109-553-00
                                                                               C261
                                                                               C264
                                                                                       1-131-373-00
                                                                                                          TANTALUM 22 10% 16V
TANTALUM 22 10% 16V
              1-421-430-00 s FILTER, LINE
  \Lambda
     T1
                                                                               C265
                                                                                       1-131-373-00
                                                                                                       8
                                                                                       1-107-210-00
                                                                                                          SILVERED MICA 22PF 5% 500V
                                                                               C273
       T2
              1-437-109-00 s DRIVE
      Т3
              1-437-109-00 B DRIVE
              1-447-229-00 s CONVERTER
      T4
  À.
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1-806-356-00 s VARRISTOR

ZT1

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Ref.No. Parts No. SP Description
Ref .No. Parts No. SP Description
         1-107-085-00 6 SILVERED MICA 100PF 5% 50V
1-107-085-00 6 SILVERED MICA 100PF 5% 50V
1-107-085-00 8 SILVERED MICA 100PF 5% 50V
                                                                                                     8-719-901-33 s 1SS133
C279
                                                                                                     8-719-901-33 s 1SS133
8-712-540-06 s 1T25-41
                                                                                           D201
C281
                                                                                           D202
         1-107-085-00 B SILVERED MICA 100PF 5% 50V
                                                                                                     [EK; S/N 10001 to 16300]
C284
                                                                                           D202 8-719-949-57 s 1T32-4

[EK; S/N 16301 and higher]

D203 8-719-901-33 s 1SS133

D204 8-719-162-07 s RD6.2E-B
         1-107-085-00 s SILVERED MICA 100PF 5% 50V
0285
          1-107-085-00 s SILVERED MICA 100PF 5% 50V
1-131-355-00 s TANTALUM 2.2 10% 25V
C287
C294
          1-131-347-00 s TANTALUM 1 10% 35V
1-107-158-00 s SILVERED MICA 30PF 5% 500V
1-131-373-00 s TANTALUM 22 10% 16V
C298
                                                                                            D205
                                                                                                     8-719-100-27
C303
                                                                                                     8-719-100-27 s RD4.7E-B2
8-719-100-27 s RD4.7E-B2
                                                                                            7206
C502
                                                                                            D207
                                                                                            ከ208
                                                                                                     8-719-162-07
                                                                                                                        s RD6.2E-B
          1-109-547-00 s DIP MICA 330PF 5% 100V
 C505
          1-109-759-00 s DIP MICA 330PF 5% 100V

1-107-159-00 s SILVERED MICA 33PF 5% 500V

1-107-159-00 s SILVERED MICA 33PF 5% 500V
                                                                                            D209
                                                                                                     8-719-162-07
                                                                                                                        s RD6.2E-B
C507
C512
                                                                                            D210
                                                                                                     8-719-162-07
                                                                                                                        s RD6.2E-B
 C513
                                                                                                     8-719-901-33 s 1SS133
          1-109-539-00 s DIP MICA 150PF 5% 100V
                                                                                            D501
                                                                                                     8-719-901-33 s 1SS133
                                                                                                     8-719-901-33
                                                                                            D502
                                                                                                                             188133
 C521
          1-131-347-00 s TANTALUM 1 10% 35V
                                                                                            D504
                                                                                                     8-719-162-07
          1-131-347-00 s TANTALUM 1 10% 35V
 C522
          1-107-210-00 s SILVERED MICA 22PF 5% 500V
 C524
                                                                                            D505
                                                                                                     8-719-139-07
                                                                                                                             RD3.9E-B
          1-131-373-00 s TANTALUM 22 10% 16V
1-109-547-00 s DIP MICA 330PF 5% 100V
 C527
                                                                                            D506
                                                                                                     8-719-901-33
                                                                                                                        8
                                                                                                                             188133
                                                                                            D507
                                                                                                     8-719-901-33
                                                                                            D508
                                                                                                     8-719-901-33
                                                                                                                             188133
          1-109-759-00 s DIP MICA 91PF 1Z 100V

1-107-159-00 s SILVERED MICA 33PF 5Z 500V

1-107-159-00 s SILVERED MICA 33PF 5Z 500V

1-109-539-00 s DIP MICA 150PF 5Z 100V

1-131-347-00 s TANTALUM 1 10Z 35V
 C532
                                                                                                     8-719-901-33
 C537
 0538
 C544
                                                                                            FB1
 C545
                                                                                                     1-535-178-00 s
                                                                                                     1-535-178-00
          1-131-347-00 s TANTALUM 1 10% 35V
 C546
                                                                                            FB3
                                                                                                     1-535-178-00
          1-131-347-00 S IANIALDM 1 10% 35V

1-107-210-00 S SILVERED MICA 22PF 5% 500V

1-107-085-00 S SILVERED MICA 100PF 5% 50V

1-109-549-00 S DIP MICA 390PF 5% 100V

1-131-373-00 S TANIALUM 22 10% 16V
                                                                                                      1-535-178-00
                                                                                            FB4
 C548
 C554
                                                                                            FB200 1-535-178-00
 C5 56
                                                                                            FB201 1-535-178-00
 C558
                                                                                            FB202 1-535-178-00
          1-131-373-00 s TANTALUM 22 10% 16V
1-131-373-00 s TANTALUM 22 10% 16V
                                                                                                     1-535-178-00
                                                                                            FB203
 0560
                                                                                            FB500
                                                                                                      1-535-178-00
 C563
          1-107-085-00 s SILVERED MICA 100PF 5% 50V
1-107-085-00 s SILVERED MICA 100PF 5% 50V
                                                                                            FB501 1-535-178-00
 C567
 C568
                                                                                            FB502 1-535-178-00
                                                                                                    1-535-178-00
1-535-178-00
                                                                                            FB504
                                                                                                     1-535-178-00
 CF200 1-527-357-00 s FILTER, CERAMIC
CF201 1-527-357-00 s FILTER, CERAMIC
CF202 1-567-066-00 s FILTER, CERAMIC
CF203 1-567-066-00 s FILTER, CERAMIC
                                                                                            IC1A 8-759-901-64 8 SN74LS164N(TI)
IC1B 8-759-942-21 8 SN74221N(TI)
IC1C 8-759-907-60 8 uA760HC(FSC)
                                                                                                      8-749-936-51 s
                                                                                                                             BX365A(SONY)
 CP200 1-235-206-00 s CR BLOCK
CP201 1-235-206-00 s CR BLOCK
CP202 1-235-206-00 s CR BLOCK
                                                                                            IC1L 8-759-000-05 s MC1496G(MOTOROLA)
                                                                                            TC1P
                                                                                                      8-759-000-05 s
                                                                                                                             MC1496G(MOTOROLA)
                                                                                                     8-759-145-57
                                                                                                                        s uPC4557C(NEC)
                                                                                            IC1R
                                                                                            IC1S
                                                                                                                             TL084CN(TI)
                                                                                            ICIW
                                                                                                     8-759-000-05 s
                                                                                                                             MC1A96G(MOTOROLA)
            8-719-901-33 s 1SS133
                                                                                                                             CA3054(RCA)
 D1
                                                                                                     8-759-930-54 s
                                                                                            IC1Z
            8-719-139-07 s RD3.9E-B
            8-719-901-33 s 1SS133
 D3
                                                                                            TC2R
                                                                                                     8-759-900-11 s SN74LS11N(T
8-749-938-10 s BX381(SONY)
                                                                                                                             SN74LS1IN(TI)
            8-719-901-33 s
                                  188133
 D4
                                                                                            TC2C
  D5
            8-719-901-33 s 1SS133
                                                                                            IC2F
                                                                                                      8-759-301-31 s
                                                                                                                             HD10131(HITACHI)
                                                                                            TC2H
                                                                                                      8-759-000-05 s
                                                                                                                             MC1496G(MOTOROLA)
            8-719-901-33 s
 D6
                                                                                                    8-759-000-05
                                                                                                                             MC1496G(MOTOROLA)
                                                                                            IC2R
                                                                                                                       ...
                                  188133
            8-719-901-33 s
            8-719-101-97 s 1SS97-1
 D8
                                                                                            TC29
                                                                                                      8-759-906-07 s
                                                                                                                             TL607CP(TI)
            8-719-901-33 s 1SS133
                                                                                                                             TL084CN(TI)
                                                                                                     8-759-990-84
 D9
                                                                                            IC2T
                                                                                                                        8
            8-719-901-33 s 1SS133
                                                                                                                             MC1496G(MOTOROLA)
  DIO
                                                                                            IC2U
                                                                                                      8-759-000-05 s
                                                                                            IC2X
                                                                                                      8-759-301-31 s
                                                                                                                             HD10131(HITACHI)
                                                                                                      8-759-000-05 & MC1496G(NOTOROLA)
                                                                                            TC27.
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Ref.No. Parts No. SP Description
Ref. No. Parts No. SP Description
                         SN74LS164N(TI)
                                                                          8-759-901-63
       8-759-901-64 s
                                                                   IC8J
                                                                                            SN74LS163AN(TT)
TC3A
       8-759-900-04 B
                         SN74LSO4N(TI)
                                                                   IC8K
                                                                          8-759-910-51
                                                                                            SN74S51N(TI)
TC3B
                         SN74LS11N(TI)
       8-759-900-11
8-749-938-10
                                                                          8-759-911-75
                      s
                                                                   TCST.
                                                                                         8
                                                                                            SN74S175N(TT)
IC3C
                          BX381(SONY)
                                                                          8-759-900-04
                                                                                            SN74LSO4N(TI)
                      3
                                                                    IC8M
                                                                                         8
IC3E
                         HD10131(HITACHI)
                                                                                            SN74LS74AN(TI)
       8-759-301-31
                                                                    IC8N
                                                                           8-759-900-74
TC3G
                          MC1496G(MOTOROLA)
       8-759-000-05
                                                                    IC8P
                                                                                            SN74LS113AN(TI)
IC3K
                                                                           8-759-900-13
                                                                                         8
       8-759-301-31
                          HD10131(HITACHI)
                                                                    IC8Q
                                                                           8-759-903-65
                                                                                            SN74LS365AN(TI)
                                                                                         8
TC3M
                          MC1648P(MOTOROLA)
       8-759-016-48 s
                                                                   TC8R
                                                                           8-759-901-64
                                                                                         8
                                                                                            SN74LS164N(TI)
IC3N
                      s HI1-0201-5(HARRIS)
        8-759-900-59
                                                                                           SN74S133N(TI)
 IC3R
                                                                    TC8U
                                                                           8-759-911-33
                                                                                         8
        [EK; S/N 10001 to 16300]
                                                                                         8
                                                                    IC8V
                                                                           8-759-901-64
                                                                                            SN74LS164N(TI)
        8-759-504-61 s ADG201AKN
[EK; S/N 16301 and higher]
TC3R
                                                                                            SN74S133N(TI)
                                                                    TC8Y
                                                                           8-759-911-33
                                                                                         8
        8-759-990-82 s TL082CP(TI)
                                                                                            SN74LS221N(TI)
                                                                    IC8Z
                                                                           8-759-902-21
 TC3U
                                                                                         8
                                                                           8-759-990-82
                                                                                            TL082CP(TI)
                                                                    IC9D
                                                                                         8
                          TL601CP(TI)
        8-759-906-01
 IC3W
                                                                    IC9F
                                                                           8-749-938-10
                                                                                         8
                                                                                            BX381 (SONY)
                          uPC4558C(NEC)
        8-759-145-58
                       8
                                                                           8-759-942-21 8 SN74221N(TI)
 IC3X
                                                                    TC9.I
                          SN74LS164N(TI)
        8-759-901-64
 TC4B
                          SN74221N(TI)
                                                                                             SN7406N(TI)
 IC4C
        8-759-942-21
                       8
                                                                    IC9K
                                                                           8-759-974-06
                           uA760HC(FSC)
        8-759-907-60
 TCAD
                                                                    TC9T.
                                                                           8-759-906-01
                                                                                         s TL601CP(TI)
                                                                           8-759-900-00
                                                                                         s SN74LSOON(TI)
                                                                    IC9N
                           BX365A(SONY)
 IC4G
        8-749-936-51
                                                                           8-759-900-74
                                                                                             SN74LS74AN(TI)
                           MC1496G(MOTOROLA)
        8-759-000-05
 IC4K
                                                                    IC9S
                                                                           8-759-903-93
                                                                                            SN74LS393N(TI)
                           HD10131(HITACHI)
 IC4M
        8-759-301-31
                       8
                           TL082CP(TI)
        8-759-990-82
 TCAP
                                                                    IC9T
                                                                           8-759-902-21
                                                                                         8
                                                                                             SN74LS221N(TI)
         8-759-990-84
                           TLOSACN(TI)
                                                                                            SN74LS175N(TI)
M51841P(MITSUBISHI)
 IC4R
                                                                    IC9U
                                                                           8-759-901-75
                                                                    IC9W
                                                                           8-759-618-41
                                                                                         8
                           MR4002(FUJITSU)
  IC45
                                                                    IC10B
                                                                           8-759-990-82
                                                                                             TL082CP(TI)
                           SN74LS113AN(TI)
        8-759-900-13
8-759-000-05
  IC4U
                                                                    IC10C
                                                                           8-759-901-23
                                                                                          s SN74LS123N(TI)
                           MC1496G(MOTOROLA)
 IC4W
         8-759-301-31
                           HD10131(HITACHI)
  IC4X
                                                                    IC10D
                                                                           8-759-952-07 s
                                                                                            SN75207 BN(TI)
                           HD10116(HITACHI)
  IC4Z
         8-759-001-16
                                                                    IC10E
                                                                           8-759-901-91
                                                                                          8
                                                                                             SN74LS191N(TI)
                                                                           8-759-942-65
                                                                                          s SN74265N(TI)
                                                                    TCIOE
                           SN74LS164N(TI)
         8-759-901-64
  IC5A
                                                                           8-759-900-20
                                                                                            SN74LS20N(TI)
                                                                    IC10G
                           SN74S86N(TI)
         8-759-910-86
  IC5C
                       s
                                                                           8-759-990-82
                                                                                          s TL082CP(TI)
                                                                    IC10H
         8-759-901-63
                           SN74LS163AN(TI)
  IC5D
                           uPC4557C(NEC)
         8-759-145-57
  IC5F
                                                                    ICIOJ
                                                                           8-757-903-00
                                                                                             CX7903(SONY)
                           MC1496G(MOTOROLA)
                                                                                         8
  IC5K
         8-759-000-05
                                                                           8-759-903-93
                                                                                             SN74LS393N(TI)
                                                                    IC10L
                                                                                          8
                                                                    IC10M
                                                                           8-759-900-30
                                                                                          s SN74LS30N(TI)
                           SN74LS393N(TI)
  IC5P
         8-759-903-93
                       8
                                                                                             SN74LS86AN(TI)
         8-759-989-69
                                                                    TCION
                                                                           8-759-989-69
                           SN74LS86AN(TI)
  TC50
                                                                           8-757-731-00
                                                                                          s CX773A(SONY)
                                                                    IC100
  IC5S
         8-759-900-00
                           SN74LSOON(TT)
                           SN74LSO8N(TI)
  TOSII
         8-759-900-08
                                                                                          s SN74LS164N(TI)
                                                                    TC10S
                                                                           8-759-901-64
                           SN74LS00N(TI)
         8-759-900-00
  IC5W
                                                                                             TC4040BP(TOSHIBA)
                                                                    IC10U
                                                                           8-759-240-40
                                                                                          8
                                                                                          s TC4012BP(TOSHIBA)
                                                                           8-759-240-12
         8-759-900-04
                           SN74LSO4N(TI)
                                                                    IC10V
  IC5X
         8-759-901-91
8-759-374-58
  IC5Y
                           SN74LS175N(TI)
                                                                    TOTOW
                                                                           8-759-902-21
                                                                                          s SN74LS221N(TI)
                           HA17458GS(HITACHI)
                                                                           8-757-731-00
                                                                                          s CX773A(SONY)
                                                                    IC10X
  TC6B
                           TL601CP(TI)
         8-759-906-01
  IC6D
                           SN74LSOON(TI)
         8-759-900-00
  IC6E
                           SN74LS221N(TI)
  IC6F
         8-759-902-21
                       8
                                                                    L1
                                                                            1-421-329-00
                                                                                             CHOKE
                                                                                         6
         8-759-901-23 s
                           SN74LS123N(TI)
  TC6P
                                                                    L2
                                                                            1-421-329-00
                                                                                             CHOKE
         8-759-901-75
                           SN74LS175N(TI)
  IC6Q
                                                                    1.3
                                                                            1-421-329-00
                                                                                          8
                                                                                             CHOKE
  IC6S
         8-759-900-74
                        8
                           SN74LS74AN(TI)
                                                                            1-421-329-00
                                                                                             CHOKE
         8-759-902-21 s
                           SN74LS221N(TI)
  IC6U
                                                                            1-407-923-00
                           SN74LS221N(TI)
  IC6W
         8-759-902-21 s
                                                                                             FIXED 2.72uH
                                                                    L200
                                                                           1-408-628-00
                                                                                         s
         8-759-902-21 s
                           SN74LS221N(TI)
  IC6X
                                                                                             FIXED 15.3uH
                                                                    L207
                                                                           1-408-868-00
                                                                                          8
         8-759-900-04
                           SN74LSO4N(TI)
  IC6Y
                                                                    L208
                                                                            1-408-869-00
                                                                                             FIXED 15.7uH
  IC7H
         8-759-990-82
                       s
                           TL082CP(TI)
                                                                            1-408-637-00
                                                                    T.209
                                                                                          8
                                                                                             FIXED 13uH
                           SN74LS123N(TI)
         8-759-901-23
  IC7J
                                                                            1-408-873-00
                                                                                          s FIXED 74.1uH
                                                                    L210
  IC7K
         8-759-974-74
                       8
                           SN7474N(TI)
                                                                    T.211
                                                                            1-408-862-00 s FIXED 6.18uH
         8-759-901-64
                           SN74LS164N(TI)
  IC7N
                       8
                                                                            1-408-635-00
                                                                                         s FIXED 12.4uH
                                                                    L502
         8-759-901-64
                           SN74LS164N(T1)
  IC7P
                                                                            1-408-635-00
                                                                                          s FIXED 12.4uH
                                                                    L505
  IC7Q
         8-759-901-63
                       8
                           SN74LS163AN(TI)
         8-759-900-13
                           SN74LS113AN(TI)
  IC7S
                       8
  TC7U
         8-759-900-11 s
                           SN74TS11N(TT)
                                                                    LP200
                                                                           1-235-204-00 s
                                                                                            LPF
         8-759-902-21 s
                           SN74LS221N(TI)
  IC7W
                                                                                         s LPF
                                                                    T.P201
                                                                           1-235-203-00
  IC7X
         8-759-900-74
                           SN74LS74AN(TI)
                                                                    LP202 1-235-205-00
         8-759-902-21 s
8-759-901-23 s
                           SN74LS221N(TI)
  TCTY
                           SN74LS123N(TI)
  IC8H
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EB-9A BOARD

<u> </u>	5025-		
	A-6252-050-A	s	EXTENSION BOARD ASSY, EB-9A
	7-621-981-15 7-621-981-25 7-686-527-01	s	SCREW, TOTSU, PSW 2.6 x 6 SCREW, TOTSU, PSW 2.6 x 8 SCREW, TOTSU, PSW 3 x 6
CN	1-508-892-00	5	100P
D1 D2 D3 D5	8-719-812-41 8-719-812-41 8-719-812-41 8-719-812-41	5	
R1 R2 R5 R6	1-247-127-00 1-247-115-00 1-247-127-00 1-247-115-00	s	CARBON 220 5% 1/4W
TP	3-657-235-00	0	TERMINAL, TEST

25-5. FIXTURE (OPTION)

Parts No.	SP	Description
7-700-733-01 7-700-736-06 7-721-050-63 7-721-050-64	5 5 5	ALIGNMENT SCREWDRIVER, SLOTTED HEAD HEXAGONAL WRENCH, L-SHAPED, 0.89MM SCREWDRIVER, TOTSU, 3MM DIA SCREWDRIVER, TOTSU, 4MM DIA
J-6041-770-A J-6041-780-A		or ** ma ao

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DP-24A BOARD : DISPLAY

